2017

REVALUATION

SCHEDULE OF VALUES

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CHATHAM COUNTY SCHEDULE OF VALUES

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Other: Present Use Value is to be considered as a second schedule and voted on as part of the revaluation process.

COMPONENTS OF A REAPPRAISAL

To accomplish the task of valuing all parcels within a county as of the January 1 revaluation date, the methodology of mass appraisal rather than the methodology of single-property appraisals must be utilized. Mass appraisal is the systematic appraisal of groups of properties as neighborhoods. This is accomplished by using standardized procedures and statistical testing. In a mass appraisal system, the assessor must make valuation judgments about groups of properties rather than single properties. The assessor must be able to develop, support and explain standardized adjustments in a valuation model among use classes, construction types, neighborhoods and other property groups. The guide used for this is the uniform schedule of values. The schedule of values is made up of schedules, standards, rules, tables and other factors used to apply the correct value to parcels. The schedule of values serves as the county's mass appraisal model and is implemented by means of a computer assisted mass appraisal system (CAMA). Incorporated in the schedule, may be building cost figures derived from national data that have been adjusted to reflect local costs, local cost studies, qualifying arms-length sales, and income and expense formulas. The schedule of values sets forth values for appropriate unit of measurement for use in appraising land and buildings. For example, land may be valued by a set amount per square foot, lot, acre, or homesite, depending on the highest and best use, while a dwelling is typically value using an established amount per square foot. The land unit per appropriate unit of measurement also will vary depending on the neighborhood in which the land is situated. Factors that warrant adjustments are also set forth in the schedule of values for various types of property. The schedule typically authorizes adjustments to land value based on factors such as homesite size, excess acreage, road frontage, topography, zoning, the present of easements and other factors. A county's schedule also typically prescribes ranges of characteristics and corresponding percentage adjustments for recognized factors.

Mass appraisal for ad valorem purposes encumbers many of the same principles as an independent fee, single-property appraisal. Mass appraisal techniques, however, emphasize valuation modules (expressed as equations, tables and schedules), standards of practice, and statistical quality control. A reassessment program consists of these subsystems:

1. A data management system
2. A sales analysis system
3. A valuation system
4. An administrative system

These subsystems are independent of each other. For example, the valuation systems uses information maintained in the sales analysis and data management systems and produces output (valuations) required by the administrative system in the production of tax bills.

DATA MANAGEMANT SYSTEM

The data management system has components for collection, entry, editing, organization, conversion, storage, and security of property characteristics and ownership. Quality control of

this system is very importance because the accuracy of the values determined depends on the reliability of the data from which they are generated. In addition, data collection, conversion, and maintenance are the most expensive aspect of any reappraisal program. Special care must be given to the thought and planning required of managing logic to minimize cost.

Data maintenance is the protocols for creating new parcels, capturing and valuing new construction, and making changes to the current property database. The maintenance protocol consists of three components:

1. County land records system: the daily creation of new parcels from the recording of "splits" (dividing of an existing parcel), combining existing parcels, and the recording of new subdivision plats feeds the second component.
2. Permits and inspections: as the appraisal staff receives notice of new permits and inspections, property record cards are pulled and new data is collected daily. Staff receives this information and monitors the construction progress and makes determinations of the percentage of construction competed as of January 1 each calendar year.
3. Periodic re-inspection of all properties: routine field visits are supplemented with information obtained from the latest Orthophotography and provided by property owners as part of the annual listing abstracts, and requests from taxpayers for review or appeal.

SALES ANALYSIS SYSTEM

The sales system has components for sales data collection, sales screening and processing, ratio studies, and sales reporting. Assessment/sales ratio studies are the primary tool for measuring mass appraisal performance. They are invaluable for monitoring appraisal results, identifying reappraisal priorities, adjusting valuations to the market, and assisting the administrative system in planning and scheduling.

Ratio studies and sales reports draw on values produced by the valuation system and on property characteristics maintained in the data management

VALUATION SYSTEM

The valuation system (CAMA) consists of mass appraisal applications of the three approaches to value and/or allows for various adjustments that recognize specific aspects of each approach. The three approaches are:

1. The Cost Approach: requires maintenance and application of computerized cost schedules and equations, depreciation schedules, and indexing factors. This data comes from contractors, building material suppliers, etc.

2. Sales Comparison Approach: applications include multiple regression analysis and model building for automated comparable sales analysis.
3. The Income Approach: will require income multipliers and overall rates. The information to generate this comes from rental, leasing, sales etc. data provided by owners and tenants.

The optimum results of the valuation system will be to consider all three approaches to value, as appropriate to property type, and determine which method(s) produces the best results for the final appraisal. Properly executed, any of the three approaches to value will yield creditable results, however the sales comparison and income approaches are highly dependent on available data. Of the three approaches only the cost approach can be uniformly applied with limited data.

The current economy has affected the number of arm's length sales occurring in the market. A general county-wide reappraisal depends on data being available from a wide variety of sources in order to properly apply each of the three approaches to value. Even when an abundance of relevant data is available for applying the sales comparison approach and the income approach that data may also be utilized in refining the cost approach. In the absence of relevant data prior to the final determination of reappraisal values, the cost approach becomes the more reliable approach for all property types. Below is a comparison of the three approaches to value and when best to apply them. (1)

RESIDENTIAL	COMMERICAL	INDUSTRIAL/ SPECIAL PURPOSE
1. Sales Comparison	1. Income	1. Cost
2. Cost	2. Cost	2. Sales Comparison
3. Income	3. Sales Comparison	3. Income

1 Information provided from IAAO One-Day Forum 960.

THE ADMINISTRATIVE SYSTEM

The administrative system is comprised of a variety of functions and activities, each of which requires information from sales analysis, valuation, or data management systems and produces products used by the administrative system.

IN-HOUSE REAPPRAISAL

An in-house reappraisal is a major effort requiring careful preparation, the support of county management and the Board of County Commissioners, adequate time, and sufficient funds. In preparing a schedule and reappraisal the assessor's office should include the relationship between the daily operations of the assessor's office and the reappraisal program. Adequate time to cover probable delays and contingencies to deal with unforeseen problems must be taken into consideration. Even though the reappraisal process should be viewed as separate from daily operations, existing staff, duties, responsibilities, and priorities must be modified, and additional staff may be required.

SUMMARY

General reappraisals of real property are required by statutory authority to be performed on an octennial plan (eight-year cycle). Many counties adopt a shorter cycle via a resolution by their respective County Board of Commissioners. The current trend in North Carolina is a four-year cycle for reappraisal with counties to hire and train the staff in order to perform an "In-House" reappraisal as opposed to "contracted" from outside the county lines.

As understood by the assessor's office an effective reappraisal requires careful planning, a realistic analysis of the present state of the assessment records and values, and the resources needed to conduct the appraisal. As such, reappraisals are a costly, highly visible and politically sensitive undertaking. However, since the real property staff in the assessor's office understands its own resources and the technical requirements of the task, they are committed to conducting the most fair and equitable reappraisal possible. The success of this endeavor depends on the leadership of the assessor's office, an informed public awareness and committed management support.

STATUTORY REQUIREMENTS

For an assessor to undertake his responsibilities and duties properly, he must be familiar with the legal framework in which to perform his function. The legal framework sets the guidance and rules to follow for a reappraisal. Some general statutes, but not all are included in this section. Others will be included throughout this schedule as applicable.

G S 105-286. Time for general reappraisal of Real Property.

(a) Octennial Cycle. – Each county must reappraise all real property in accordance with the provisions of G.S. 105-283 and G.S. 105-317 as of January 1 of the year set out in the following schedule and every eighth year thereafter, unless the county is required to advance the date under subdivision (2) of this section or chooses to advance the date under subdivision (3) of this section.

(1) Schedule of Initial Reappraisals. –
Division Eight – 1979: ---Chatham NCGS 105-286

(2) Mandatory Advancement. – A county whose population is 75,000 or greater according to the most recent annual population estimates certified to the Secretary by the State Budget Officer must conduct a reappraisal of real property when the county's sales assessment ratio determined under G.S. 105-289(h) is less than .85 or greater than 1.15, as indicated on the notice the county receives under G.S. 105-284. A reappraisal required under this subdivision must become effective no later than January 1 of the earlier of the following years:
a. The third year following the year the county received the notice.
b. The eighth year following the year of the count's last reappraisal.

(3) Optional Advancement – A county may conduct a reappraisal of real property earlier than required by subdivision (1) or (2) of this subsection if the board of county commissioners adopts a resolution providing for advancement of the reappraisal. The resolution must designate the effective date of the advanced reappraisal and may designate a new reappraisal cycle that is more frequent than the octennial cycle set in subdivision (1) of the subsection. The board of county commissioners must promptly forward a copy of the resolution adopted under this subdivision to the Department of Revenue. A more frequent reappraisal cycle designated in a resolution adopted under this subdivision continues in effect after a mandatory reappraisal required under subdivision (2) of this subsection unless the board of county commissioners adopts another resolution that designates a different date for the county's next reappraisal.

Note: Under the provisions of **GS 105-286 (a) (3)** for 2013 the Chatham County Board of Commissioners adopted a resolution to advance the reappraisal date to January 1, 2017 and continue on a four-year reappraisal cycle from this date.

G S 105-273(13) Definitions

Real property, real estate, or land. – Any of the following:

a. The land itself.
b. Buildings, structures, improvements, or permanent fixtures on land.
c. All rights and privileges belonging or in any way appertaining to the property.
d. A manufactured home as defined in G.S. 143-143.9(6), unless it is considered tangible personal property for failure to meet all of the following requirements:
    1. It is a residential structure.
    2. It has the moving hitch, wheels and axles removed, land owned by the owner of the manufactured home or on land in which the owner of the manufactured home has a leasehold interest pursuant to a lease with a primary term of at least 20 years and the lease expressly provides for the disposition of the manufactured home upon termination of the lease.

G S 105-296. Powers and duties of assessor.

(b) Within budgeted appropriations, he shall employ listers, appraisers, and clerical assistants necessary to carry out the listing, appraisal, assessing, and billing functions required by law. The assessor may allocate responsibility among such employees by territory, by subject matter, or on any other reasonable basis. Each person employed by the assessor as a real property appraiser or personal property appraiser shall during the first year of employment and at least every other year thereafter attend a course of instruction in his area of work. At the end of the first year of their employment, such persons shall also achieve a passing score on a comprehensive examination in property tax administration conducted by the Department of Revenue.

G S 105-299. Employment of experts.

The board of county commissioners may employ appraisal firms, mapping firms or other persons or firms having expertise in one or more of the duties of the assessor to assist him or her in the performance of such duties. The county may make available to such persons any information it has that will facilitate the performance of a contract entered into pursuant to this section. Persons receiving such information shall be subject to the provisions of G.S. 105-289(e) and G.S. 105-259 regarding the use and disclosure of information provided to them by the county. Any person employed by an appraisal firm whose duties include the appraisal of property for the county shall be required to demonstrate that he or she is qualified to carry out such duties by achieving a passing grade on a comprehensive examination in the appraisal of property administered by the Department of Revenue. In the employment of such firms, primary consideration shall be given to the firms registered with the Department of Revenue pursuant to the provisions of G.S. 105-289(i). A copy of the specifications to be submitted to potential bidders and a copy of the proposed contract may be sent by the board to the Department of Revenue for review before the invitation or acceptance of any bids. Contracts for the employment of such firms or persons shall be deemed to be contracts for personal services and shall not be subject to the provisions of Article 8, Chapter 143, of the General Statutes.

(1939, c. 310, s. 408; 1971, c. 806, s. 1; 1973, c. 476, s. 193; 1975, c. 508, s. 2; 1983, c. 813, s. 4; 1985, ARTICLE 19.

G S 105-317. Appraisal of real property; adoption of schedules, standards, and rules.

(a) Whenever any real property is appraised it shall be the duty of the persons making appraisals:

(1) In determining the true value of land, to consider as to each tract, parcel, or lot separately listed at least its advantages and disadvantages as to location; zoning; quality of soil; waterpower; water privileges; dedication as a nature preserve; conservation or preservation agreements; mineral, quarry, or other valuable deposits; fertility; adaptability for agricultural, timber-producing, commercial, industrial, or other uses; past income; probable future income; and any other factors that may affect its value except growing crops of a seasonal or annual nature.

(2) In determining the true value of a building or other improvement, to consider at least its location; type of construction; age; replacement cost; cost; adaptability for residence, commercial, industrial, or other uses; past income; probable future income; and any other factors that may affect its value.

(3) To appraise partially completed buildings in accordance with the degree of completion on January 1.

(b) In preparation for each revaluation of real property required by G.S. 105-286, it shall be the duty of the assessor to see that:

(1) Uniform schedules of values, standards, and rules to be used in appraising real property at its true value and at its present-use value are prepared and are sufficiently detailed to enable those making appraisals to adhere to them in appraising real property.

(2) Repealed by Session Laws 1981, c. 678, s. 1.

(3) A separate property record be prepared for each tract, parcel, lot, or group of contiguous lots, which record shall show the information required for compliance with the provisions of G.S. 105-309 insofar as they deal with real property, as well as that required by this section. (The purpose of this subdivision is to require that individual property records be maintained in sufficient detail to enable property owners to ascertain the method, rules, and standards of value by which property is appraised.)

(4) The property characteristics considered in appraising each lot, parcel, tract, building, structure and improvement, in accordance with the schedules of values, standards, and rules, be accurately recorded on the appropriate property record.

(5) Upon the request of the owner, the board of equalization and review, or the board of county commissioners, any particular lot, parcel, tract, building, structure or improvement be actually visited and observed to verify the accuracy of property characteristics on record for that property.

(6) Each lot, parcel, tract, building, structure and improvement be separately appraised by a competent appraiser, either one appointed under the provisions of G.S. 105-296 or one employed under the provisions of G.S. 105-299.

(7) Notice is given in writing to the owner that he is entitled to have an actual visitation and observation of his property to verify the accuracy of property characteristics on record for that property.

(c) The values, standards, and rules required by subdivision (b) (1) shall be reviewed and approved by the board of county commissioners before January 1 of the year they are applied. The board of county commissioners may approve the schedules of values, standards, and rules to be used in appraising real property at its true value and at its present-use value either separately or simultaneously. Notice of the receipt and adoption by the board of county commissioners of either or both the true value and present-use value schedules, standards, and rules, and notice of a property owner's right to comment on and contest the schedules, standards, and rules shall be given as follows:

(1) The assessor shall submit the proposed schedules, standards, and rules to the board of county commissioners not less than 21 days before the meeting at which they will be considered by the board. On the same day that they are submitted to the board for its consideration, the assessor shall file a copy of the proposed schedules, standards, and rules in his office where they shall remain available for public inspection.

(2) Upon receipt of the proposed schedules, standards, and rules, the board of commissioners shall publish a statement in a newspaper having general circulation in the county stating:

a. That the proposed schedules, standards, and rules to be used in appraising real property in the county have been submitted to the board of county commissioners and are available for public inspection in the assessor's office; and

b. The time and place of a public hearing on the proposed schedules, standards, and rules that shall be held by the board of county

commissioners at least seven days before adopting the final schedules, standards, and rules.

(3) When the board of county commissioners approves the final schedules, standards, and rules, it shall issue an order adopting them. Notice of this order shall be published once a week for four successive weeks in a newspaper having general circulation in the county, with the last publication being not less than seven days before the last day for challenging the validity of the schedules, standards, and rules by appeal to the Property Tax Commission. The notice shall state:

a. That the schedules, standards, and rules to be used in the next scheduled reappraisal of real property in the county have been adopted and are open to examination in the office of the assessor; and

b. That a property owner who asserts that the schedules, standards, and rules are invalid may except to the order and appeal there from to the Property Tax Commission within 30 days of the date when the notice of the order adopting the schedules, standards, and rules was first published.

(d) Before the board of county commissioners adopts the schedules of values, standards, and rules, the assessor may collect data needed to apply the schedules, standards, and rules to each parcel in the county.

§ 105-283. Uniform appraisal standards.

All property, real and personal, shall as far as practicable be appraised or valued at its true value in money. When used in this Subchapter, the words "true value" shall be interpreted as meaning market value, that is, the price estimated in terms of money at which the property would change hands between a willing and financially able buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of all the uses to which the property is adapted and for which it is capable of being used. For the purposes of this section, the acquisition of an interest in land by an entity having the power of eminent domain with respect to the interest acquired shall not be considered competent evidence of the true value in money of comparable land.

Authors Notes: The Machinery Act of North Carolina has been provided as an integral part of these Uniform Schedules of Value, Standards, and Rules. All applicable not recited in this test are included by reference.

PROPERTY VALUATION

In addition to the specific statutory direction and appellate court rulings, it is necessary to be well-versed with the nature of appraised values of property and with the basic economic principles that serve as the foundation of the valuation process.

APPRAISAL THEORY

An appraisal, in itself, is nothing more than an opinion of value. This does not imply, however, that one opinion is necessarily as good as another; there are valid and accurate appraisals, and there are invalid and inaccurate appraisals. The validity of an appraisal can be measured against the supporting evidence from which it was derived, and its accuracy against that very thing it is supposed to predict - the actual behavior of the market. Each is fully contingent upon the ability of the appraiser to record adequate data and to interpret that data into an indication of value.

Appraising real property, like the solving of any problem, is an exercise in reasoning. It is a discipline, and like any discipline, it is founded on fundamental economic and social principles. From these principles evolve certain premises which, when applied to the valuation of property, serve to explain the reaction of the market. This section concerns itself with those concepts and principles basic to the property valuation process. One cannot overstate the necessity of having a workable understanding of them.

CONCEPT OF PRPOERTY

The definition of property should begin the discussion of assessing value. Property is associated with the right of any person to possess, use, enjoy and dispose of a thing. Property, then, is a broad term expressing the relationship between owners and their rights in and to possessions. In appraising real property, the parcel to be appraised includes the rights inherent in ownership of the property be included in the opinion of value rendered by the reappraisal.

All property may be divided into two major categories-real property and personal property. Real property is defined as the sum of the tangible and intangible rights in land and improvements. This refers to the interest, benefits, and rights inherent in the ownership of physical real estate. Real estate is the physical land and everything permanently attached to it. Personal property consists of movable items not permanently affixed to, or part of, the real estate and is commonly known as "personal" or "chattels".

Real estate may be divided into two categories-land and improvements. Land is defined as the surface of the earth together with everything under its boundary and everything over it. Improvements (land improvements, such as paving, fencing, structures, and landscaping etc.) consist of immovable items affixed to and becoming part of the real

estate. "Permanently affixed" refers to the original intent of the owner and economic life of the improvements.

Defining the term "affixed" has been the subject of much litigation, and the courts are subject to change the meaning. In general terms personal property annexed to land is called a fixture. Chattels that have been annexed to land are called a fixture.

These chattels that have been annexed to the land so as to lose their character as chattels and become real estate for ad valorem tax purposes. In determining the nature of the annexation of personal property, there are two basic considerations: first, the adaptability of the personal property to the use part of the realty and second, the person by whom the annexation is made and his interest in the land and the personal property.

Courts have held that if the chattel is affixed to the land so that it loses its original physical charter and cannot be restored to its original condition as a practical matter; it loses its nature as personal property and becomes real property. Two tests relied upon to determine if personal property becomes real estate are: first the intention of the person who put the item in its place and second whether the item may be removed from the real estate without damaging either the item or the real estate. Also, to be consider are the use of the item and the generally excepted conveyance of the item in real estate transactions.

In identifying property, a distinction must be made between that of tangible and intangible property. Tangible property consists of actual physical property. Intangible property is evidence of ownership of property rights. Some examples of intangible property are patent rights, copyrights, notes, mortgages, deeds of trust, and stock certificates.

BUNDLE OF RIGHTS

Real estate and real property are often used interchangeably. Generally speaking, real estate pertains to the real or fixed improvements to the land such as structures and other appurtenances, whereas real property encompasses all the interests, benefits and rights enjoyed by the ownership of the real estate.

Real property ownership involves the Bundle of Rights Theory which asserts that the owner has the right:

1. To enter or leave it (real property)
2. Use it
3. Sell it
4. Lease or rent it
5. Give it away

Law guarantees these rights, but they are subject to certain governmental and private restrictions.

The Governmental restrictions are found in its power for:

1. Taxation – the right to tax the property for support of the government.
2. Eminent domain – the right to take the property for public use provided that just compensation is pad.
3. Police power – the right of enforcing any regulations deemed necessary to promote the safety health, morals, zoning, building codes, and general welfare of the public.
4. Escheat – the right to provide revert to the state in cases where there are no legal heirs can be ascertained or for nonpayment of taxes.

Private restrictions imposed upon property are often in the form of agreements incorporated into the deed. The deed also spells out precisely which rights of the total bundle of rights the buyer is acquiring. Since value is related to each of these rights, the appraiser should know precisely which rights are involved in his appraisal.

Appraisals for Ad Valorem tax purposes generally assume the property is, owned in the "Fee Simple", meaning that the total bundle of rights is considered to be intact.

THE NATURE AND MEANING OF VALUE

An appraisal is an opinion or estimate of value. The concept of value is basic to the appraisal process and calls for a thorough understanding. The American Institute of Real Estate Appraisers' Appraisal Terminology Handbook, 1981 edition, offers the following definitions of value:

> "The measure of value is the amount (for example, of money) which the potential purchaser probably will pay for possession of the thing desired."
>
> "The ratio of exchange of one commodity for another, for example, one bushel of wheat in terms of a given number of bushels of corn; thus the value of one thing may be expressed in terms of another thing. Money is the common denominator by which value is measured."
>
> "It is the power of acquiring commodities in exchange, generally with a comparison of utilities - the utility of the commodity parted with (money) and that of the commodity acquired in the exchange (property)."
>
> "Value depends upon the relation of an object to unsatisfied needs; that is, supply and demand."

"Value is the present worth of future benefits arising out of ownership to typical users and investors."

With these definitions, one can see that value is not an intrinsic characteristic of the commodity itself. On the contrary, value is determined by people, created by desire, modified by varying degrees of desire and reduced by lack of desire. Throughout the definitions a relationship between the purchase and the commodity (property) is implied; this relationship is "value". A purchaser desires a property because it is a useful commodity in that it has utility. Utility is a prerequisite to value, but utility standing alone does not sufficiently cause value. If a great supply of a useful commodity exists, as for example air, needs would be automatically satisfied, desire would not be aroused, and therefore value would not be created. Therefore, besides having utility, to effectively arouse desire, the commodity must also be scarce.

One additional factor is necessary to complete the value equation . . . the ability to become a buyer. A translation must be made of desire into a unit of exchange; a buyer must have purchasing power. The relationship is now complete . . . the commodity has utility and is relatively scarce, it arouses desire, and the buyer is able to satisfy that desire by trading for it . . . value is created. The question is how much value, and herein lays the job of the appraiser.

Numerous definitions of value have been offered, some simple and some complex. It would seem though that any valid definition of value would necessarily embody the elements of utility, desire, scarcity and purchasing power. Furthermore, the concept of value very rarely stands alone. Instead, it is generally prefixed by a descriptive term that serves to relate it to a specific appraisal purpose or activity such as "loan value". Since appraisals are made for a variety of reasons, it is important for the appraiser to clarify the specific purpose for the appraisal and the type of value that he seeks to estimate.

For Ad Valorem Tax purposes, the value sought is generally market value. Statute 105-283 from the North Carolina Machinery Act describes market value as follows.
All property, real and personal, shall as far as practicable be appraised or valued at its true value in money. When used in this Subchapter, the words "true value" shall be interpreted as meaning market value, that is, the price estimated in terms of money at which the property would change hands between a willing and financially able buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of all the uses to which the property is adapted and for which it is capable of being used. For the purposes of this section, the acquisition of an interest in land by an entity having the power of eminent domain with respect to the interest acquired shall not be considered competent evidence of the true value in money of comparable land.

VALUE IN USE AS OPPOSED TO VALUE IN EXCHANGE

We have stated that there are a number of qualifying distinctions made in reference to the meaning of value. One of the most common and probably the most important relative to the purpose of this manual is the distinction between value in use and value in exchange. We have defined market value as a justifiable price which buyers, in general, will pay in the market. The question arises then as to the value of property which, by nature of its special and highly unique design, is useful to the present owner, but relatively less useful to buyers in the market. One can readily see that such a property's utility value may differ greatly from its potential sales price. It is even possible that no market for such a property exists. Such a property is said to have value in use, which refers to the actual value of a commodity to a specific person, as opposed to value in exchange, which aligns itself with market value, referring to the dollar-value of a commodity to buyers in general. In a sense, value in use embodies the objective premise, which maintains that value is within the object. This concept easily accommodates cost. While with value in exchange the subjective element is accentuated. Value in exchange, being the primary concern for the assessor, reflects the actions and reactions of buyers, sellers and investors and is considered market value.

THE PRINCIPLE OF SUPPLY AND DEMAND

In order for property to have value, there must be desirability, utility, scarcity, and economic purchasing power. Utility is the capacity of goods to create desire and should not be confused with usefulness. While utility is a subjective concert, usefulness is an objective concept inherent in the property.

Scarcity helps to create desire. There are two economic forces which determine scarcity supply and demand.

Among the forces which constantly operate to influence supply and demand are population growth, new techniques in transportation, purchasing power, price levels, wage rates, taxation, governmental controls, and scarcity. A sudden population growth in an area would create an increase in demand for housing. If the demand increased at a higher rate than the supply, this could soon be a scarcity of housing. If the demand was backed up by purchasing power, rentals and sale prices would tend to increase and ultimately reach a level which would tend to stimulate more builders to compete for the potential profits and thus serve to increase the supply toward the level of demand. As the supply is increased demand would begin to taper off. This would cause rentals and sale prices to level off. When builders, due to increases in labor and material rates, are no longer able to build cheaply enough to meet the new level of prices and rents, competition would tend to taper off and supply would level off. The cycle is then complete.

Balance occurs when reasonable competition serves to coordinate supply with demand. When competition continues unchecked to produce a volume that exceeds the demand, the net returns to investors are no longer adequate to pay all the costs of ownership, resulting in loss rather than profit and consequently, a decline in values.

A community may well support two shopping centers, but the addition of a third shopping center may increase the supply to excess. If this occurs, one of two effects are caused; either the net dollar return to all the shopping centers will be reduced below that level necessary to support the investment, or one of the shopping centers will flourish at the others' expense.

Utility and scarcity by themselves do not confer value on an object, unless the desire by the purchaser is present, a desire backed by the economic purchasing power of the buyer(s).

In any discussion of value, a comparison of the terms "cost" and "price" is useful. Cost may be defined as the sacrifice made in the acquisition of property and commonly reflects the perspective of the buyer. Either the purchase of an existing property or the construction of a new property may incur cost. Price may be defined as the amount of money given, expected or arrived at arranging for the exchange of property. Cost and price may be the same, but not necessarily. An example would be a purchaser pays $200,000 to buy a property, it may be stated that the property cost $200,000. However, while price is defined in terms of money, cost is expressed as a sacrifice. A sacrifice may be in terms of money, labor, or time. Also, when property is sold, the price may be either above or below the owner's cost.

MARKET VALUE

The terms "value" and "market value" though similar are not the same. There are many different definitions for market value provided by statutes and constitutions of all fifty states for property taxation and realtors used to market property. The assessor must adhere to the definition of market value as stated in N.C.G.S. 105-283 (see section on statues) and decisions rendered by the North Carolina Appellate Courts.

The following important points regarding market value should be noted:

1. It is the most probable price.
2. It is not the highest, lowest, or average price.
3. It is expressed in terms of money.
4. It implies a reasonable time for exposure to the market.
5. It implies that both buyer and seller are well-informed of the uses to which the property may be put. It requires an arm's length transaction in the open market.

6. It requires a willing buyer and willing seller, with no advantage being taken by either buyer of seller. Neither, buyer or seller placed in a position of having to purchase or sale to avoid legal action, or dispose of property. This is a constraint against consideration of foreclosure and short sales.
7. It recognizes the present use as well as the potential use of property.

Note: In analyzing sales of property, close attention is paid to identifying all transactions that are the result of a foreclosure or short sale. Such sales are not retained for further consideration in determining the schedules set out elsewhere in this document, and neither will they be considered in analyzing the reappraisal results via the State-mandated assessment/sales ratio study. For a complete list of conditions, that the NC Department of Revenue distributes to all 100 NC counties to be used in determining qualified or disqualified sales (not consider an arm's length transaction), please refer to the Addendum, Document.

THE PRINCIPLE OF HIGHEST AND BEST USE

The way in which property is used, or could be used, plays an essential role in determining its market value. An assessor recognizes this as the highest and best use. The highest and best use for a property is that use which will produce the highest net return to the land for a given period of time within the limits of those uses which are economically feasible, probable, physically possible and legally permissible.

On a community-wide basis, the major determining factor in highest and best use is the maximum quantity of land that can be devoted to a specific use and still yield a satisfactory return. Once a suitable basic use has been chosen for a specific property, each increment of capital investment to the existing or planned improvement will increase the net return to the land only up to a certain point; after this point is reached; the net return to the land begins to diminish. This is the point at which the land is at its highest and best use

For example, in planning a high-rise office building, each additional upper floor represents an extra capital expenditure that must yield a certain return to the investor. This return will be dependent upon the levels of economic rent that the market will bear at the time. An optimum number of floors can be calculated above which the income yield requirements of additional expenditures will no longer be satisfactorily met. This, not withstanding the possibility of other more particular considerations, should determine the number of stories of the building.

Detailed analysis of this type is rarely thrust upon the property tax appraiser. Generally the tax appraiser will find the most prudent course of action is to consider the present use and follow development rather than anticipate it.

Just as everything changes with time, the highest and best use of property will change. The charter of a neighborhood may be altered, thereby creating demands for different uses. The assessor periodically reviews conclusions as to highest and best use and revises them according to the data that are collected. As an example, zoning one of the restraints on use may be changed, which changes the allowable use.

BASIC PRINCIPLES OF VALUE

Certain principles are generally accepted as having a direct effect on the modern concept of value evolving from economic doctrine. It should be emphasized that these principles rarely if ever can be considered in isolation; it is typical to conceive them in an interrelated setting, for they tend to complement and accompany one another. These principals after considering the interrelationship among them results in the highest and best use.

The following principals are essential to appraisal function:

PRINCIPAL OF ANTICIPATION:

Market value is the present worth of all the anticipated future benefits to be derived from the property. Income stream and amenities may be considered benefits. Anticipated future benefits are those benefits anticipated by the market. 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 principal of change works in conjunction with the principal of anticipation.

PRINCIPAL OF BALANCE:

The principal of balance when applied to a property 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.

THE PRINCIPLE OF CHANGE:

The principal states that market value is never constant, because economic, social, and governmental forces are at work to change property and its environment. Because change is continuous, the estimate of market value is valid only on the effective day for which it is made. This principal works in conjunction with the principal of anticipation.

The impact of change on the value of real property manifests itself in the life cycle of a neighborhood. The cycle is characterized by three stages of evolution: the development and growth evidenced by improving values; the leveling off stage evidenced by static values; and finally, the stage of infiltration of decay evidenced by declining values.

The highest and best use today is not necessarily the highest and best use tomorrow. The highest and best use of the land often lies in a succession of uses. A declining single-family residential neighborhood may be ripe for multi-family, commercial or industrial development. Whether it is or not depends upon the relationship of present or anticipated future demand with existing supply.

In estimating value, the appraiser is obligated to reasonably anticipate the future benefits, as well as the present benefits derived from ownership and to evaluate the property in light of the quality, quantity, and duration of these benefits based on actual data as opposed to speculative or potential benefits that may or may not occur.

PRINCIPAL OF COMPETION:

This principal states that when substantial profits are being made, completion is created. This leads to the aphorism that profit tends to bred completion and that excess profit bred ruinous completion.

PRINCIPAL OF CONFORMITY:

The principal of conformity states that maximum market value is reached when a reasonable degree of economic and social homogeneity is expected in the foreseeable future. As applied to improvements, reasonable homogeneity implies reasonable similarity, not monotonous uniformity. Similarity in age, income, background, etc. is conformity when applied to residents. In understanding the neighborhood concept in mass appraisal, conformity is essential and works with the principals of progression and regression.

PRINCIPAL OF CONSISTANCE USE:

This principal states that the property must be valued with a single use for the entire property. Property valued on the basis on one use for land and another for the improvements is improper. The principal 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.

PRINCIPAL OF CONTRIBUTION:

This principal states that a 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. Some examples are:

1. A garage is erected on an existing home at a cost of $30,000. Based on comparable sales analysis, it is determined that such a garage adds $35,000 to the overall market value of the property. In this case $35,000 is the value contribution of the garage.

2. Cost does not always equal value. A stone fire place cost $10,000 to construct. Sales analysis in this neighborhood reflects a standard fireplace only adds $5,000 of value to a home. A stone fireplace may only add $6,000 of contribution to the value of the home not the cost of $10,000.

This principal 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. Many of the adjustments to value that are detailed herein for various property characteristics, are based on their contribution to the whole property, not their actual cost. This principal works in conjunction with the principals of balance, increasing and decreasing returns, and surplus productivity.

PRINCIPAL OF INCREASING AND DECREASING RETURN:

This principal states that when successive increments of one agent of production are added to fixed amounts of 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:

The principles of progression and regression related to how surroundings affect the value of an object. Progression indicates that the value of a lessor object is enhanced by association with better objects of the same type. The principal 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.

THE PRINCIPLE OF SUBSTITUTION:

Value is created by the market place. It is the function of translating demand into a commodity of exchange. When the benefits and advantages derived from two properties are equal, the lowest priced property receives the greatest demand, and rightfully so. The informed buyer is not justified in paying anything more for a property than it would cost to acquire an equally desirable property. That is to say that the value of a property is established as that amount for which equally desirable comparable properties are being bought and sold in the market. Herein lies an approach to value . . . and the basis of the valuation process.

PRINCIPAL OF SUPPLY AND DEMAND:

The forces of supply and demand determined market value.

PRINCIPAL OF SURPLUS PRODUCTIVITY:

This principal 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.

TRADITIONAL APPROACHES TO VALUE

In the preceding paragraphs, it has been stated that value is an elusive item that occurs in many different forms, and that the forces and influences which combine to create, sustain, or destroy value are numerous and varied. It is the appraiser's function to define the type of value sought (market value in North Carolina for taxation purposes), to compile and to analyze all related data, and giving due consideration to all the factors which may influence the value, to process and translate that data into a final opinion or *estimate of value*. This he must do for each property he is to appraise.

The processing of this data into a conclusion of value generally takes the form of three recognized approaches to value: Cost Approach, Market Data Approach and Income Approach. Underlying each of the approaches is the principle that the justifiable price of a property is no more than the cost of acquiring and/or reproducing an equally desirable substitute property. The use of one or all three approaches in the valuation of a property is determined by the quantity, quality, and accuracy of the data available to the appraiser.

The *COST APPROACH* involves making an estimate of the depreciated cost of reproducing or replacing the building and site improvements. *Reproduction Cost* refers to the cost at a given point in time of reproducing a replica property, whereas *Replacement Cost* refers to the cost of producing improvements of equal utility. Depreciation is deducted from this cost new for loss in value caused by physical deterioration, and functional or economic obsolescence. To this depreciated cost is then added the estimated value of the land, resulting in an indication of value derived by the Cost Approach.

The significance of the Cost Approach lies in its extent of application . . . it is the one approach that can be used on all types of construction. It is a starting point for appraisers, and therefore it is a very effective "yardstick" in any equalization program for Ad Valorem taxes. Its widest application is in the appraisal of properties where the lack of adequate market and income data preclude the reasonable application of the other traditional approaches.

The *MARKET DATA APPROACH* (Sales Comparison Approach) involves the compiling of sales and offerings of properties that are comparable to the property being appraised. These sales and offerings are then adjusted for any dissimilarity, and a value range obtained by comparison of said properties. The approach is reliable to the extent that the properties are comparable, and the appraiser's judgment of proper adjustments is sound. The procedure for using this approach is essentially the same for all types of property with the only difference being the elements of comparison.

The significance of this approach lies in its ability to produce estimates of value, which directly reflect the attitude of the market. Its application is contingent upon the availability of comparable sales, and therefore finds its widest range in the appraisal of vacant land and residential properties. Some examples, of applicable North Carolina case law, are:

Neither this section nor G.S. 105-317(a) requires the commission to value property according to its sale price in a recent arm's length transaction when competent evidence of a different value is presented.
In re Greensboro Office Partnership, 72 N.C. App635,325 S.E. 2d 24, cert. denied, 313 N.C. 602,330 S.E.2d 610 (1985)

Where sale was not between a willing buyer and a willing seller, as contemplated by this section, sales price was not indicative of property's true value.
In re Phoenix Ltd. Partnership, 134 N.C. App. 474, 517 S.E.2d 903 (1999)

Essentially, North Carolina law prohibits the presumption that the sale price of any particular property must be the basis for its appraised value for ad valorem tax purposes. Instead, reliance is placed on the greater weight of evidence determined from a larger sampling of comparable properties and as a result, the appraised value may be less than or greater than the sale price of any particular property.

The *INCOME APPROACH* measures the present worth of the future benefits of a property by the capitalization of the net income stream over the remaining economic life of the property. The approach involves making an estimate of the "effective gross income" of a property, derived by deducing the appropriate vacant and collection losses from its estimated economic rent, as evidenced by the yield of comparable properties. From this figure then is deducted applicable operating expense, the cost of taxes and insurance, and reserve allowances for replacements resulting in an estimate of net income, which may then be capitalized into an indication of value.

The approach obviously has its basic application in the appraisals of properties universally bought and sold on their ability to generate and maintain a stream of income for their owners. The effectiveness of the approach lies in the appraiser's ability to relate to the changing economic environment and to analyze income yields in terms of their relative quality and durability.

PPROPERTY VALUITION TECHNIQUES

APPLYING THE COST APPROACH

If the highest and best use of a property is its present use, a valid indication of value may be derived by estimating the value of the land, and adding the land value to the depreciated value of the structures on the land; the resulting equation being . . .

	Estimated Land Value
+	Estimated Replacement Cost New of Structures
-	Estimated Depreciation
=	Indication of Property Value

Since estimating the land value is covered in a separate section, this section will address itself to the two remaining elements, Replacement Cost and Depreciation.

REPLACEMENT COST

Replacement Cost is the current cost of producing an improvement of equal utility to the subject property; it may or may not be the cost of reproducing a replica property. The distinction being drawn is one between *Replacement Cost*, which refers to a substitute property of equal utility, as opposed to *Reproduction Cost*, which refers to a substitute replica property. In a particular situation the two concepts may be interchangeable, but they are not necessarily so. They both, however, have application in the Cost Approach to value, the difference being reconciled in the consideration of depreciation allowances.

In actual practice, outside of a few historic type communities in this country, developers and builders, for obvious economic reasons, replace buildings, not reproduce them. It logically follows that if an appraiser's job is to measure the actions of knowledgeable persons in the market place, the use of proper replacement costs should provide an accurate point of beginning in the valuation of most improvements.

The replacement cost includes the total cost of construction incurred by the builder whether preliminary to, during the course of, or after completion of the construction of a particular building. Among these are material, labor, all subcontracts, builders' overhead and profit, architectural and engineering fees, consultation fees, survey and permit fees, legal fees, taxes, insurance, and the cost of interim financing.

ESTIMATING REPLACEMENT COST

There are various methods that may be employed to estimate replacement cost new. The methods widely used in the appraisal field are the quantity-survey method, the unit-in-place or component part-in-place method, and the model method.

The *Quantity-Survey Method* involves a detailed itemized estimate of the quantities of various materials used, labor and equipment requirements, architect and engineering fees, contractor's overhead and profit, and other related costs. This method is primarily employed by contractors and cost estimators for bidding and budgetary purposes and is much too laborious and costly to be effective in every day appraisal work, especially in the mass appraisal field. The method, however, does have its place in that it is used to develop certain unit-in-place costs which can be more readily applied to estimating for appraisal purposes.

The *Unit-in-Place Method* is employed by establishing in-place cost estimates (including material, labor, overhead and profit) for various structural components. The prices established for the specified components are related to their most common units of measurement such as cost per yard of excavation, cost per lineal foot of footings, and cost per square foot of floor covering.

The unit prices can then be multiplied by the respective quantities of each as they are found in the composition of the subject building to derive the whole dollar component cost, the sum of which is equal to the estimated cost of the entire building, providing of course, that due consideration is given to all other indirect costs which may be applicable. This components part-in-place method of using basic units can also be extended to establish prices for larger components in-place such as complete structural floors (including the finish flooring, sub-floor, joists and framing) which are likely to occur repeatedly in a number of buildings.

The *Model Method* is still a further extension, in that unit-in-place costs are used to develop base unit square foot or cubic foot costs for total specified representative structures in place, which may then serve as "models" to derive the base unit cost of comparable structures to be appraised. The base unit cost of the model most representative of the subject building is applied to the subject building and appropriate tables of additions and deductions are used to adjust the base cost of the subject building to account for any significant variations between it and the model.

Developed and applied properly, these pricing techniques will assist the appraiser in arriving at valid and accurate estimates of replacement cost new as of a given time. This given time for ad valorem tax purposes is always January 1 of the reappraisal year. The cost generally represents the upper limit of value of a structure. The difference between its replacement cost new and its present value is depreciation. The final step in completing the Cost Approach then is to estimate the amount of depreciation and deduct said amount from the replacement cost new.

DEPRECIATION

Simply stated, depreciation can be defined as "a loss in value from all causes." As applied to real estate, it represents the loss in value between market value and the sum of

the replacement cost new of the improvements plus the land value as of a given time. The causes for the loss in value may be divided into three broad classifications: Physical Deterioration, Functional Obsolescence, and Economic Obsolescence.

Physical Deterioration pertains to the wearing out of the various building components, referring to both short-life and long-life terms, through the action of the elements, age, and use. The condition may be considered either "curable" or "incurable", depending upon whether it may or may not be practical and economically feasible to cure the deficiency by repair and replacement.

Functional Obsolescence is a condition caused by either inadequacies or over-adequacies in design, style, composition, or arrangement inherent to the structure itself, which tends to lessen its usefulness. Like physical deterioration, the condition may be considered either curable or incurable. Some of the more common examples of functional obsolescence are excessive wall and ceiling heights, excessive structural construction, surplus capacity, ineffective layouts, and inadequate building services.

Economic Obsolescence is a condition caused by factors extraneous to the property itself, such as changes in population characteristics and economic trends, encroachment of inharmonious land uses, and governmental restrictions. The condition is generally incurable in that the causes lie outside the property owner's realm of control.

ESTIMATING DEPRECIATION

An estimate of depreciation represents an opinion of the appraiser as to the degree that the present and future appeal of a property has been diminished by deterioration and obsolescence. Of the three estimates necessary to the cost approach, it is the one most difficult to make. The accuracy of the estimate will be a product of the appraiser's experience in recognizing the symptoms of deterioration and obsolescence and the ability to exercise sound judgment in equating all observations to the proper monetary allowance to be deducted from the replacement cost new. There are several acceptable methods that may be employed:

Physical deterioration and/or functional obsolescence can be measured by observing and comparing the physical condition and/or functional deficiencies of the subject property as of a given time with either an actual or hypothetical, comparable, new and properly planned structure.

Curable physical deterioration and functional obsolescence can be measured by estimating the cost of restoring each item of depreciation to a physical condition as good as new, or estimating the cost of eliminating the functional deficiency.

Functional and economic obsolescence can be measured by capitalizing the estimated loss in rental due to the structural deficiency, or lack of market demand.

Total accrued depreciation may be estimated by first estimating the total useful life of a structure and then translating its present condition, desirability, and usefulness into an effective age (rather than an actual age) which would represent that portion of its total life (percentage) which has been used up.

Total accrued depreciation may also be estimated by deriving the amount of depreciation recognized by purchasers as evidenced in the prices paid for property in the market place; the loss of value being the difference between the cost of replacing the structure now and its actual selling price (total property selling price less the estimated value of the land).

APPLYING THE MARKET APPROACH

An indication of the value of a property can be derived through analysis of the selling prices of comparable properties. The use of this technique, often referred to as the "comparison approach" or "comparable sales approach", involves the selection of a sufficient number of valid comparable sales and the adjustment of each sale to the subject property to account for variations in time, location, site and structural characteristics.

Even though the sales comparison approach is a valuation technique of its own, comparisons are made in each of the three approaches to valuation. It may be more accurate to say the entire appraisal process is a series of comparisons. This is especially true in the mass appraisal process for property taxation, where in the final analysis it must be demonstrated that all taxable properties have been uniformly, accurately and equitably valued.

INTRODUCTION TO THE SALES COMPARSION APPROACH

For assessment purposes, market values are defined by constitutions, statutes and case law. When sales data is available, the sales comparison approach is generally considered the most reliable of the approaches to value. However, in North Carolina assessment litigation, under the "rules of evidence" a bona fide sale of the subject property may not be considered the best evidence of market value "when competent evidence of different value is presented". In re Greensboro Office Partnership, 72 N.C. App. 635, 325 S.E.2d24, cert. denied, 313 N.C. 602,330 S.E.2d 610 (1995).

Emphasizing uniformity and the equitable distribution of the tax burden relative to the premise that similar properties should share similarly in that burden, North Carolina statutory langue and the interpretation of relating actual sales to market value by the North Carolina Courts both provide this guidance.

The sales comparison approach models the behavior of the market by comparing the properties being appraised (subject property) with similar properties that have recently sold (comparable properties). Comparable properties are selected for their similarity to the subject property. Their sales prices are then adjusted for their differences from the

subject. Finally, a market value for the subject is determined from the adjusted sales prices of the comparable properties.

To understand the sales comparison approach an appraiser must understand the principles of supply and demand. The interaction of supply and demand factors impacts property prices. Supply depends on current inventories and, in a larger since, the availability of human skills, materials, and capital. While demand is influenced by population levels, mortgage rates, income levels, local services, housing trends, and the cost of substitutes. The principal of substitution is one demand factor that implies that the market will recognize differences in utility between the subject and its best alternatives by a difference in price.
The sales comparison approach requires the following steps:

1. Definition of the appraisal problem.
2. Data collection.
3. Analysis of market data to develop units of comparison and select attributes for adjustment (model specifications)
4. Development of reasonable adjustments (model calibration).
5. Application of the model to adjust the sales prices of comparable properties to the subject property.
6. Analysis of the adjusted sales price to indicate the value of the subject property.

The entire valuation process depends on accurately defining the subject property, because the nature of the property determines the sources of information, methods of comparable selection, and adjustment techniques.

Defining the subject property includes:

1. Identifying the property (parcel number or pin for ad valorem tax purposes)
2. The rights to be appraised (generally Fee Simple for ad valorem tax purposes)
3. The date of appraisal (January 1 of the appraisal year for NC ad valorem tax purposes).
4. The use (highest and best use)
5. The type of value to estimate (market value, for NC ad valorem tax purposes)

This approach has a wide application as a method of estimating value, however, there are factors that can or do limit the usefulness of the sales comparison approach. In spite of these limitations this approach has a board application in all appraisal work. The value estimates found by the use of this approach are considered particularly significant because they are expressions of value as established by transactions in the market place.

Even though the sales comparison approach is mostly used for estimating market value for residential property it may also be used for some commercial and industrial properties if sufficient data is available. Additionally, some valuation parameters of the other

valuation approaches (cost and income) are influenced by the application of and observations learned from the sales comparison approach.

SELECTING VALID COMPARABLES

Since market value has been defined as the price which an informed and intelligent buyer, fully aware of the existence of competing properties and not being compelled to act is justified in paying for a particular property, it follows that if market value is to be derived from analyzing comparable sales, that the sales must represent valid "arms length" transactions. Due consideration must be given to the conditions and circumstances of each sale before selecting the sales for analysis. Some examples of sales that do not normally reflect valid market conditions are as follows:

Sales in connection with: foreclosures, short sales, bankruptcies, condemnations and other legal actions.

Sales to or by federal, state, county and local governmental agencies.

Sales to or by religious, charitable or benevolent tax exempt agencies.

Sales involving family transfers, or "love and affection."

Sales involving intra-corporate affiliations.

Sales involving the retention of life interests.

Sales involving cemetery lots.

Sales involving mineral or timber rights, and access or drainage rights.

Sales involving the transfer of part interests.

In addition to selecting valid market transactions, it is equally important to select properties that are truly comparable to the property under appraisement. For instance, sales involving both real property and personal property or chattels may not be used unless the sale can be adjusted to reflect only the real property transaction, nor can sales of non-operating or deficient industrial plants be validly compared with operating plants. The comparable sales and subject properties must exhibit the same use, and the site and structural characteristics must exhibit an acceptable degree of comparability.

PROCESSING COMPARABLE SALES

All comparable sales must be adjusted to the subject property to account for variations in time and location. The other major elements of comparison will differ depending upon the type of property being appraised. In selecting these elements, the appraiser must give prime consideration to the same factors that influence the prospective buyers of particular types of properties.

The typical homebuyer is interested in the property's capacity to provide the family with a place to live. A primary concern is with the living area, utility area, number of rooms, number of baths, age, structural quality and condition, and the presence of a modern kitchen and recreational conveniences of the house. Equally important is the location and neighborhood, including the proximity to and the quality of schools, public transportation, and recreational and shopping facilities.

In addition to the residential amenities, the buyer of agricultural property is primarily interested in the productive capacity of the land, the accessibility to the market place, and the condition and functional utility of the farm buildings and structures on the land.

The typical buyer of commercial property, including warehouses and certain light industrial plants, is primarily concerned with its capability to produce revenue. Of special interest will be the age, design and structural quality and condition of the improvements, the parking facilities, and the location relative to transportation, labor markets and trade centers.

In applying the market data approach to commercial/industrial property, the appraiser will generally find it difficult to locate a sufficient number of comparable sales, especially of properties that are truly comparable in their entirety. It will, therefore, generally be necessary to select smaller units of comparison such as price per square foot, per unit, per room, etc. In doing so, great care must be exercised in selecting a unit of comparison that represents a logical common denominator for the properties being compared. A unit of comparison that is commonly used and proven to be fairly effective is the Gross Rent Multiplier, generally referred to as G.R.M., which is derived by dividing the gross annual income into the sales price. Using such units of comparison enables the appraiser to compare two properties that are similar in use and structural features, but differ significantly in size and other characteristics.

Having selected the major factors of comparison, it remains for the appraiser to adjust each of the factors to the subject property. In comparing the site, adjustments for size, location, accessibility, and site improvements must be made. In comparing the structures, adjustments for size, quality, design, condition, and significant structural and mechanical components also must be made. The adjusted selling prices of the comparable properties will establish a range in value in which the value of the subject property will fall. Further

analysis of the factors should enable the appraiser to narrow the range down to the value level that is most applicable to the subject property.

APPLYING THE INCOME APPROACH

INTRODUCTION

The justified price paid for income producing property is no more than the amount of investment required to produce a comparably desirable return; and since the market can be analyzed in order to determine the net return actually anticipated by investors, it follows that the value of income producing property can be derived from the income which it is capable of producing. What is involved is an estimate of income through the collection and analysis of available economic data, the development of a property capitalization rate, and the processing of the net income into an indication of value by employing one or more of the acceptable capitalization methods and techniques.

THE PRINCIPLES OF CAPITALIZATION

Capitalization is the process for converting the net income produced by property into an indication of value. Through the years of appraisal history, a number of procedures have been recognized and employed by appraisal authorities in determining the value of real estate by the income approach. Although present-day practice recommends only certain methods, we will at least touch on the other approaches to value - even though they may not be accepted in today's appraisal scene because they do not accurately reflect the current market conditions.

EXPLORING THE RENTAL MARKET

The starting point for the appraiser is an investigation of current economic rent in a specific area in order to establish a sound basis for estimating the gross income that should be returned from competitive properties. The appraiser must make a distinction between economic rent or the rent, which property is normally expected to produce on the open market, as opposed to control (actual) rent or the rent which property is actually realizing at the time of the appraisal due to lease terms established some time in the past.

The first step then is to obtain specific income and expense data on properties that best typify normal market activity. The data is necessary to develop local guidelines for establishing the economic rent and related expenses for various types of properties.

The next step is to similarly collect income and expense data on individual properties, and to evaluate the data against the established guidelines. The collection of income and expense data (I & E) is an essential phase in the valuation of commercial properties. The appraiser is primarily concerned with the potential earning power of the property. The objective is to estimate its expected net income. Income and Expense Statements of past

years are valuable only to the extent that they serve this end. The statements must not only be complete and accurate, but must also stand the test of market validity. Consideration of the following factors should assist the appraiser in evaluating the income and expense (I & E) data in order to arrive at an accurate and realistic estimate of net income. This is sometimes referred as net income before recapture.

Chatham County does send surveys soliciting income and expense data from property owners and leasers of commercial (income-producing) property. The return results for these surveys are limited at best. Typically, more significant amount of additional information is made available as part of the appeal process. This data (income and expense) is generally provided in support of a claim seeking a decrease in appraisal value. The quality/worth of that data is dependent on the documentation provided. Lease information (lease rates, terms, and other stated considerations) is best, with undocumented statements the least useful.

Due to the limited return rate of the survey, the county may utilize other outside sources of information. Even though this may be done on a limited bases it could be useful during the appeal process.

QUESTIONS RELATING TO INCOME DATA

A. Was the reported income produced entirely by the subject property? Very often the rent will include an amount attributable to one or more additional parcels of real estate. In this case, it would be necessary to obtain the proper allocations of rent.

B. Was the income attributable to the subject property as it physically existed at the time of the appraisal, or did the appraisal include the value of leasehold improvements and remodeling for which the tenant paid in addition to rent? If so, it may be necessary to adjust the income to reflect economic rent.

C. Does the reported income represent a full year's return? It is often advisable to obtain both monthly and annual amounts as verification.

D. Does the income reflect current economic rent? Is either part or all of the income predicated on old leases? If so, what are the provisions for renewal options and rates?

E. Does the reported income reflect 100% occupancy? What percentage of occupancy does it reflect? Is this percentage typical of this type of property, or is it due to special non-recurring causes?

F. Does the income include rental for all marketable space? Does it include an allowance for space, if any, which is either owner or manager occupied? Is the allowance realistic?

G. Is the income attributable directly to the real estate and conventional amenities? Is some of the income derived from furnishings and appliances? If so, it will be necessary to adjust the income or make provisions for reserves to eventually replace them, whichever local custom dictates.

H. In many properties an actual rental does not exist because the real estate is owner occupied. In this event it is necessary to obtain other information to provide a basis to estimate economic rent. The information required pertains to the business operation using the property. Proper analysis of the annual operating statements of the business, including gross sales or receipts, can provide an accurate estimate of economic rent. Information requirements for a few of the more common property uses are as follows:

Note: The survey data received from property owners/lessors where their income and expense information is stated is held confidential. Survey data may be complied into a summary document and incorporated herein for subsequent consideration either prior to a final determination for appraisal purposes or for supporting evidence of value as part of the appeal process.

Retail Stores	The annual net gross sales. (Gross sales less returned merchandise).
Hotels and Motels	The annual operating statement of the business. If retail or office space is leased in these properties, obtain the actual rent paid.
Theaters	The annual gross receipts (including admissions and concessions) and seating capacity.
Automobile Parking	The annual gross receipts.

ANALYSIS OF EXPENSE DATA

The appraiser must consider only those expenses that are applicable to the cost of ownership; that is, those expenses that are normally owner incurred. Any portion of the expenses incurred directly or indirectly by the tenant should not be considered. Each expense item must stand the test of both legitimacy and accuracy. How do they compare with the established guidelines and norms? Are they consistent with the expenses incurred by comparable properties?

Management - refers to the cost of administration. These charges should realistically reflect what a real estate management company would actually charge to manage the property. If no management fee is shown on the statement; an allowance must be made, by the appraiser. On the other hand, if excessive management charges are reported, as is often the case, the appraiser must disregard the reported charges and use an amount that he deems appropriate and consistent with comparable type properties. The cost of management bears a relationship with the risk of ownership and will generally range between 4 to 10% of the gross income.

General expenses - may include such items as the cost of services and supplies not charged to a particular category. Unemployment and F.I.C.A. taxes, Workmen's Compensation, and other employee insurance plans are usually legitimate deductions when employees are a part of the building operation.

Reimbursed expenses - refer to the cost associated with the maintenance of public or common areas of the commercial property. This expense is passed on to the tenants and should, therefore, only be considered when the amount of reimbursement is included as income.

Miscellaneous expenses - is the "catch-all" category for incidentals. This item should reflect a very nominal percentage of the income. If expenses reported seem to be excessive, the appraiser must examine the figures carefully in order to determine if they are legitimate expenses, and if so, to allocate them to their proper category.

Cleaning expenses - are legitimate charges. They are for such items as general housekeeping and maid service, and include the total cost of labor and related supplies. All or a portion of the cleaning services may be provided by outside firms working on a "contract" basis. Cleaning expenses vary considerably and are particularly significant in operations such as offices and hotels. "Rule of thumb" norms for various operations are made available through national management associations. The appraiser should have little difficulty in establishing local guidelines.

Utilities - are generally legitimate expenses and if reported accurately, need very little reconstruction by the appraiser, other than to determine if the charges are consistent with comparable properties. Local utility companies can provide the appraiser with definite guidelines.

Heat and Air Conditioning - costs are often reported separately and in addition to utilities. The expenses would include the cost of fuel other than the above mentioned utilities, and may include, especially in large installations, the cost of related supplies, inspection fees, and maintenance charges. These are generally legitimate costs, and the same precautions prescribed for "utilities" are in order.

Elevator expenses - including the cost of repairs and services, are legitimate deductions, and are generally handled through service contracts. These fees can generally be regarded as fairly stable annual recurring expenses.

Decorating and minor alterations - are necessary to maintain the income stream of many commercial properties. In this respect they are legitimate expenses. However, careful scrutiny of these figures is required. Owners tend to include the cost of major alterations and remodeling which are, in fact, capital expenditures, and as such are not legitimate operating expenses.

Repairs and Maintenance - expenses reported for any given year, are not necessarily a true indication of the average or typical annual expense for these items. For example, a statement could reflect a substantial expenditure for a specific year (possibly because the roof was replaced and/or several items of deferred maintenance were corrected); yet the statement for the following year may indicate that repairs and maintenance charges were practically nil. It is necessary for the appraiser to either obtain complete economic history on each property in order to make a proper judgment as to the average annual expense for these items, or include a proper allowance based on norms for the type and age of the improvements to cover annual expenses. Since it is neither possible nor practical to obtain enough economic history on every property, the latter method is generally used and the amounts reported for repairs and maintenance are then estimated by the appraiser.

Insurance - Caution must be used in accepting insurance expense figures. Cost shown may be for more than one year, or may be for blanket policies including more than one building. It is generally more effective for the appraiser to establish his own guidelines for insurance. He must also be careful to include only items applicable to the real estate. Fire extended coverage and owner's liability are the main insurance expense items. Separate coverage on special component parts of the buildings, such as elevators and plate glass, are also legitimate expenses.

Real Estate Taxes - In making appraisals for tax purposes, the appraiser must exclude the actual amount reported for real estate taxes. Since future taxes will be based on his appraised value, the appraiser must express the taxes as a factor of the estimated value. This can be done, by including an additional percentage in the capitalization rate to account for real estate taxes.

Depreciation - The figure shown for depreciation on an operating statement is a "bookkeeping figure" which the owner uses for Internal Revenue purposes and should not be considered in the income approach. This reflects a tax advantage that is one of the benefits of ownership.

Interest - Although interest is considered a legitimate expense, it is always included in the Capitalization Rate. Most property is appraised as if it were "free and clear"; however, the appraiser does consider the interest of a current mortgage in the Capitalization Rate build-up.

Land Rent - When appraising for real estate tax purposes, only the sum of the leasehold and the leased fee is usually considered. Land rent is not deducted as an expense. Considered separately, rent from a ground lease would be an expense to the leasehold interest and an income to the leased fee. However, if land were rented from another property to supply additional parking for example, that land rent would be an allowable expense.

It is obvious that there are some expense items encountered on operating statements that the appraiser should not consider as allowable. This is because he is interested in legitimate cash expenses only. Income statements are usually designed for income tax purposes where credit can be taken for borrowing costs and theoretical depreciation losses.

It is virtually impossible and certainly not always practical to obtain a complete economic history on every commercial property being appraised. On many properties, however, detailed economic information can be obtained through the use of Income and Expense forms. One must realistically recognize the fact that the data obtainable on some properties is definitely limited.

In most cases, the gross income and a list of the services and amenities furnished can be obtained during the data gathering operation. However, in order to insure a sound appraisal, it may be necessary to estimate the fixed and operating expenses. This is best accomplished by setting guidelines for expenses, based on a percent of Effective Gross Income or a cost per square foot of leased area. These percentages or costs will vary depending on the services supplied and the type of property.

CAPITALIZATION METHODS

The most prominent methods of capitalization are Direct, Straight Line, Sinking Fund, and Annuity. Each of these is a valid method for capitalizing income into an indication of value. The basis for their validity lies in the action of the market, which indicates that the value of income producing property can be derived by equating the net income with the net return anticipated by informed investors. This can be expressed in terms of a simple equation:

Value = Net Income divided by Capitalization Rate

The *Straight Line* and *Sinking Fund* methods are both actual forms of Straight Capitalization, with one using Straight Line recapture and the other using Sinking Fund recapture. Both methods follow the same basic principles as Direct Capitalization, differing only in that they provide for separate capitalization rates for land and buildings; the building rate differing from the land rate in that it includes an allowance for recapture.

Straight Line Capitalization allows for "recapture" based on remaining economic life of the building - implying that at the end of that period of time, there would be a zero improvement value. There are three fallacies in this thinking. First, the potential buyer (investor) has no intention of holding the property that long. The average investment period might average ten years. Second, the investor anticipates that at the end of that period he will either get all his money back or will make a profit. And third, is the depreciation allowance possible in connection with federal income taxes.

Depreciation allowances begin to "run out" between seven and ten years, so the advantages of owning the property are reduced considerably. A prudent owner may choose to sell the property at this point and re-invest in another property so that he may begin the depreciation cycle again and continue to take full advantage of the favorable tax laws.

For these reasons, the Straight Line Capitalization Method does not usually follow what the market indicates.

Straight Line recapture calls for the return of investment capital in equal increments or percentage allowances spread over the estimated remaining economic life of the building.

Sinking Fund recapture calls for the return of invested capital in one lump sum at the termination of the estimated remaining economic life of the building. This is accomplished by providing for the annual return of a sufficient amount needed to invest and annually re-invest in "safe" interest-bearing accounts, such as government bonds or certificates of deposit, which will ultimately yield the entire capital investment during the course of the building's economic life.

Annuity Capitalization lends itself to the valuation of long-term leases. In this method, the appraiser determines, by the use of annuity tables, the present value of the right to receive a certain specified income over stipulated duration of the lease. In addition to the value of the income stream, the appraiser must also consider the value that the property will have once it reverts back to the owner at the termination of the lease. This reversion is valued by discounting its anticipated value against its present day worth. The total property value then is the sum of the capitalized income stream plus the present worth of the reversion value.

CURRENT TECHNIQUES

There are two methods, however, that do lend themselves to an accurate measure of market value based on potential income. These are Direct Capitalization, utilizing the Direct Comparison Method of Rate Selection, and Mortgage Equity Capitalization.

In *Direct Capitalization*, the appraiser determines a single "overall" capitalization rate. This is done through analysis of actual market sales of similar types of properties. He develops the net income of each property, and divides the net income by the sales price to arrive at an overall rate to provide an indication of value. Direct capitalization rates have been relied on in many appellate court rulings for the valuation of income-producing properties for ad valorem tax purposes.

Mortgage Equity Capitalization is a form of direct capitalization with the major difference in the two approaches being the development of the overall capitalization rate.

In this method, equity yields and mortgage terms are considered influencing factors in construction of the interest rate. In addition, a plus or minus adjustment is required to compensate for anticipated depreciation or appreciation. This adjustment can be related to the recapture provisions used in other capitalization methods and techniques.

RESIDUAL TECHNIQUES

It can readily be seen that any one of the factors of the Capitalization Equation (Value = Net Income divided by Capitalization Rate) can be determined if the other two factors are known. Furthermore, since the value of property is the sum of the land value plus the building value, it holds that either of these can be determined if the other is known. The uses of these mathematical formulas in capitalizing income into an indication of value are referred to as the residual techniques, or more specifically, the property residual, the building residual, and the land residual techniques.

The *Property Residual Technique* is an application of Direct Capitalization. In this technique, the total net income is divided by an overall capitalization rate (which provides for the return on the total investment) to arrive at an indicated value for the property. This technique has received more popular support in recent years because it closely reflects the market. With this technique, the capitalization rate may be developed by either "direct comparison" in the market or by the Mortgage Equity Method.

The *Building Residual Technique* requires the value of the land to be a known factor. The amount of net income required to earn an appropriate rate of return on the land investment is deducted from the total net income. The remainder of the net income (residual) is divided by the building capitalization rate (which is composed of a percentage for the return on the investment, plus a percentage for the recapture of the investment) to arrive at an indicated value for the building.

The *Land Residual Technique* requires the value of the building to be a known factor. The amount of net income required to provide both, a proper return on and the recapture of the investment is deducted from the total net income. The remainder of the net income (residual) is then divided by the land capitalization rate (which is composed of a percentage for the return on the investment) to arrive at an indicated value for the land.

MORTGAGE EQUITY METHOD EXAMPLE

For purposes of illustration, assume an investment financed with a 70% loan at 14.0% interest. The term of the mortgage is 20 years, paid off in level monthly payments. The total annual cost for principal and interest on such a loan can be determined by referring to the mortgage equity tables. Select the Constant Annual percent for an interest rate of 14.0% and a term of 20 years. Note that the constant is 14.92% of the amount borrowed, or .92% more than the interest rate alone.

Assume that the equity investor will not be satisfied with less than an 18% yield. The income necessary to satisfy both Lender and Equity can now be shown. The product of the percent portion and the rate equals the weighted rate. The total of each weighted rate equals the weighted average.

	PORTION	RATE		WEIGHTED RATE
Mortgage loan (principle interest)	70%	.1492	=	.1044
Equity (down payment)	30%	.18	=	.0540
Weighted Average	100%			.1584

Note that the "constant annual percent" is used for the rate of the loan.

Since there is a gain in equity's position through the years by the loan being paid off little by little, it is necessary to calculate the credit for "Equity Build-Up". Assume that the investor plans to hold the property for ten years. Since the mortgage is for 20 years, only a portion of the principal will be paid off and this amount must be discounted, as it won't be received for ten years. From the Table of Loan Balance and Debt Reduction, at the end of ten years for a 20 year mortgage at 14%, the figure is .199108. Consulting the sinking fund tables indicates that the discount factor for 18% and 10 years is .0425.

The credit for Equity Build-Up can now be deducted from the basic rate, thus . . .

.199108		70%		.0425	= .0059
(%of loan paid in 10 yrs.)	x	(loan rate)	X	(sinking fund 18% for 10 yrs.)	
Resulting Net Rate					= .1525

LAND VALUATION TECHNIQUES

In making appraisals for Ad Valorem Tax purposes, it is generally necessary to estimate separate values for the land and the improvements on the land. In actuality, the two are not separated and the final estimate of the property as a single unit must be given prime consideration. However, in arriving at that final estimate of value, aside from the requirements for property tax appraisals, there are certain other reasons for making a separate estimate of value for the land:

An estimate of land value is required in the application of the Cost Approach.

An estimate of land value is required to be deducted, from the total property sales price in order to derive indications of depreciation through market-data analysis. (Depreciation being equal to the difference between the replacement cost new of a structure and the actual price paid in the market place for the structure.)

As land is not a depreciable item, a separate estimate of land value is required for bookkeeping and accounting purposes; likewise, the total capitalization rate applicable to land will differ from the rate applicable to the improvements on the land.

Since land may or may not be used to its highest potential, the value of land may be completely independent of the existing improvements on the land.

Real Estate is valued in terms of its highest and best use. The highest and best use of the land (or site), if vacant and available for use, may be different from the highest and best use of the improved property. This will be true when the improvement is not an appropriate use and yet makes a contribution to total property value in excess of the value of the site. Highest and Best Use (Highest and Most Profitable Use; Optimum Use) is that reasonable and probable use which will support the highest present value as of the date of the appraisal. Alternatively, it is the most profitable likely use to which a property can be put. It may be measured in terms of the present worth of the highest net return that the property can be expected to produce over a stipulated long run period of time. (American Institute of Real Estate Appraisers' Appraisal Terminology Handbook, 1981 edition.)

As appraisers' opinions are based on data derived from the market, it is necessary to study and adapt, if possible, procedures used by those closest to everyday transactions.

COMPARABLE SALES METHOD

The most frequently used method in estimating the value of land is the comparable sales method in which land values are derived from analyzing the selling prices of similar sites. This method is in essence the application of the market data approach to value and all the considerations pertaining thereto are equally applicable here.

The appraiser must select comparable and valid market transactions, and must weigh and give due consideration to all the factors significant to value, adjusting each to the subject property. The comparable sites must be used in the same way as is the subject property, and subjected to the same zoning regulations and restrictions. It is also preferable, whenever possible, to select comparable sales from the same or a similar neighborhood. The major adjustments will be to account for variations in time, location, and physical characteristics to include size, shape, topography, landscaping, access, as well as other factors which may significantly influence the selling price, such as the productivity of farm land.

Although it is always preferable to use sales of unimproved lots for comparison, it is not always possible to do so. Older neighborhoods are not likely to yield a sufficient number of representative sales of unimproved lots to permit a valid analysis. In such cases, in order to arrive at an estimate of land values using the comparable sales approach, it is necessary to consider improved property sales and to estimate the portion of the selling price applicable to the structure. The procedure would be to estimate the replacement cost of the buildings as of the date of sale, estimate the accrued depreciation and deduct that amount from the replacement cost resulting in the estimated selling price of the buildings, which can be deducted from the total selling price of the property to derive the portion of the selling price which can be allocated to the land. The equation is as follows:

Selling Price of Property
\- Estimated Depreciated Value of Buildings
= Indication of Land Value

In some of these older neighborhoods, vacant lots will exist often as a result of fire or normal deterioration. Since the desirability as a new building site is restricted, value is generally determined by adjoining property owners who have a desire for additional land area.

In order to apply the comparable sales method, it is first necessary to establish a common unit of comparison. The units generally used in the valuation of land are price per front foot, price per square foot, price per acre, price per lot or site or home site price per apartment unit, and price per motel unit. The selection of any one particular unit depends upon the type of property being appraised . . .frontage being commonly used for platted, uniform type residential lots, and square footage and acreage for larger, unplatted tracts, as well as irregularly shaped lots lacking in uniformity. Use of square footage is especially desirable in Central Business Districts where the entire lot maintains the same level of value: depth factor adjustments have a tendency to distort this concept. Commercial arteries are also best valued on a square foot basis.

The utility of a site will vary with the frontage, width, depth, and overall area. Similarly, the unit land values should be adjusted to account for differences in size and shape between the comparable and the subject property. Since such an adjustment is generally necessary for each lot, it is beneficial that the appraiser adopts and/or develops standardized procedures for adjusting the lot size and the unit values to account for the variations. It is not uncommon for all lots within a development to market at the same price. Should data indicate this, it is necessary to make alterations or adjustments to maintain this value level. In some cases, a "site value" concept has advantages. Site value tables provide for uniform pricing of standard sized lots within homogenous neighborhoods or subdivisions. Some of the techniques commonly employed are as follows:

Standard lot sizing techniques provide for the adjustment of the frontage, width, and depth of irregular shaped lots to make the units of measurement more

comparable with uniform rectangular lots. Incremental and decremented adjustments can be applied to account for size differences.

Standard Depth Tables provide for the adjustment of front foot unit values to account for variations in depth from a predetermined norm.

Frontage Tables provide for the adjustment of front footage unit values to account for variations in the relative utility value of excessive or insufficient frontage as compared to a predetermined norm.

Acreage or Square Footage Tables provide for the adjustment of unit values to account for variations in the relative utility value of excessive or insufficient land sizes as compared to a predetermined norm.

During the process of adjusting the comparable sales to account for variations between them and the subject property, the appraiser must exercise great care to include all significant factors and to properly consider the impact of each of the factors upon the total value. If done properly, the adjusted selling prices of the comparable properties will establish a range in value in which the value of the subject property will fall. Further analysis of the factors should enable the appraiser to narrow the range down to the value level that is most applicable to the subject property.

THE LAND RESIDUAL TECHNIQUE

In the absence of sufficient market data, income-producing land may be valued by determining the portion of the net income attributable to the land and capitalizing the net income into an indication of value. The procedure is as follows:

1. Determine the highest and best use of the land, which may be either its present use or hypothetical use.

2. Estimate the net income which the property can be expected to yield.

3. Estimate the replacement cost new of the improvements.

4. If the case involves the present use, estimate the proper allowance for depreciation, and deduct that amount from the replacement cost new of the improvements to arrive at an estimate of their depreciated value.

5. Develop appropriate capitalization rates.

6. Calculate the income requirements of the improvements, and deduct the amount from the total net income to derive that portion of the income that can be said to be attributable to the land.

7. Capitalize the residual income attributable to the land to an indication of value.

RATIO METHOD

A technique useful for establishing broad indications of land values is a "typical" allocation or ratio method. In this technique, the ratio of the land value to the total value of improved properties is observed in situations where there is good market and/or cost evidence to support both the land values and total values. This market abstracted ratio is then applied to similar properties where the total values are known, but the allocation of values between land and improvements are not known. The ratio is usually expressed as a percentage that represents the portion of the total improved value that is land value, or as a formula:

$$\frac{\text{Total Land Value}}{\text{Total Property Value}} \times 100\% = \%\ \text{Land Is of Total Property Value}$$

This technique can be used on most types of improved properties, with important exceptions being farms and recreational facilities, provided that the necessary market and/or cost information is available. In actual practice, available market information limits this technique primarily to residential properties, and to a much lesser extent, commercial and industrial properties such as apartments, offices, shopping centers, and warehouses. The ratio technique cannot give exact indications of land values. It is nevertheless useful, especially when used in conjunction with other techniques of estimating land values because it provides an indication of the reasonableness of the final estimate of land value.

The ratio should be extracted from available market information and applied to closely similar properties. It should be noted that any factor that affects the value could also affect the ratio of values. Zoning is particularly important because it may require more or less improvements be made to the land, or may require a larger or smaller minimum size. This tends to have a bearing on the land values, and may influence the ratio of values considerably from community to community.

The following is an example of a residential land valuation situation:

Market information derived from an active new subdivision

Typical Lot Sale Price (most lots equivalent)				$15,000
Improved Lot Sales (range)				$65,000 to $75,000
Indicated Ratio	$\frac{\$15,000}{75,000}$	To $\frac{15,000}{65,000}$	X 100%	20% to 23%

Similar subdivision, but 100% developed

Typical Lot Sale Price (most lots equivalent)	Unavailable
Improved Lot Sales (range)	$85,000 to $105,000
Broadest Indicated Range of Lot Values (20% x $85,000 to 23% x $105,000)	$17,000 to $24,150
Narrowest Indicated Range of Lot Values (23% x $85,000 to 20% x $105,000)	$19,550 to $21,000

If both lots and improvements vary considerably, the broadest range is most appropriate. If most lots vary little and are judged equivalent but the improvements vary somewhat, the narrowest range is appropriate. Most subdivisions exhibit a combination of the two ranges, showing a narrow typical range, but a wider actual range of land values.

MASS APPRAISING

In preceding sections, we have outlined the fundamental concepts, principles, and valuation techniques underlying the Appraisal Process. We will now approach the problem at hand . . . the reappraisal of certain specified real property within a total taxing jurisdiction, be it an entire county or any subdivision thereof . . .. and to structure a systematic mass appraisal program to effect the appraisal of said properties in such a way as to yield valid, accurate, and equitable property valuations at a reasonable cost dictated by budgetary limitations, and within a time span totally compatible with assessing administration needs.

The key elements of the program are validity, accuracy, equity, economy, and efficiency. To be effective, the program must. . . . .

- incorporate the application of proven and professionally acceptable techniques and procedures;

- provide for the compilation of complete and accurate data and the processing of that data into an indication of value approximating the prices actually being paid in the market place as of the effective assessment date;

- provide the necessary standardization measures and quality controls essential to promoting and maintaining uniformity throughout the jurisdiction;

- provide the appropriate production controls necessary to execute each phase of the operation in accordance with a carefully planned budget and work schedule; and –

- provide techniques especially designed to streamline each phase of the operation, eliminating superfluous functions, and reducing the complexities inherent in the Appraisal Process to more simplified but equally effective procedures.

In summary, the objective of an individual appraisal is to arrive at an opinion of value, the key elements being the validity of the approach and the accuracy of the estimate. The objective of a mass appraisal for tax purposes is essentially the same. However, in addition to being valid and accurate, the value of each property must be equitable to that of each other property, and what's more, these valid, accurate, and equitable valuations must be generated as economically and efficiently as possible.

OVERVIEW

The prime objective of mass appraisals for tax purposes is to equalize property values. Not only must the value of one residential property be equalized with another, but it must also be equalized with each agricultural, commercial, and industrial property within the political unit.

The common denominator or the basis for equalization is market value as set forth by N.C.G.S. 105-283. . . . that price which an informed and intelligent person, fully aware of the existence of competing properties and not being compelled to act, is justified in paying for a particular property.

The job of the appraiser is to arrive at a reasonable estimate of that justified price. To accomplish this, the coordination of approaches to the valuation of the various classes of property must be made so that they are related one to another in such a way as to reflect the motives of the prospective purchasers of each type of property.

A prospective purchaser of a residential property is primarily interested in its capacity to render service to the family as a place to live. Its location, size, quality, design, age, condition, desirability and usefulness are the primary factors to be considered in making a selection. By relying heavily upon powers of observation and inherent intelligence, knowing what could be afforded and simply comparing what is available, one property will eventually stand out to be more appealing than another. So it is likewise the job of the appraisers to evaluate the relative degree of appeal of one property to another for tax purposes.

The prospective purchaser of agricultural property will be motivated somewhat differently. The primary interest will be in the productive capabilities of the land. It is reasonable to assume that the purchaser will be familiar, at least in a general way, with the productive capacity of the farm. It might be expected that the prudent investor will have compared one farm's capabilities against another. Accordingly, the appraiser for local tax equalization purposes must rely heavily upon prices being paid for comparable farmland in the community.

The prospective purchaser of commercial property is primarily interested in the potential net return and tax shelter the property will provide. That price which is justified to pay for the property is a measure of the prospects for a net return from the investment. Real estate, as an investment then, must not only compete with other real estate, but also with stocks, bonds, annuities, and other similar investment areas. The commercial appraiser must explore the rental market and compare the income-producing capabilities of one property to another.

The prospective purchaser of industrial property is primarily interested in the overall utility value of the property. Of course, in evaluating the overall utility, individual consideration must be given to the land and each improvement thereon. Industrial buildings are generally of special purpose design, and as such, cannot readily be divorced from the operation for which they were built. As long as the operation remains effective, the building will hold its values; if the operation becomes obsolete, the building likewise becomes obsolete. The upper limit of its value is its replacement cost new, and its present day value is some measure of its present day usefulness in relation to the purpose for which it was originally designed.

Any effective approach to valuations for tax purposes must be patterned in such a way as to reflect the "modus operandi" of buyers in the market place. As indicated above, the motives influencing prospective buyers tend to differ depending upon the type of property involved. It follows that the appraiser's approach to value must differ accordingly.

The residential appraiser must rely heavily upon the market data approach to value, analyzing the selling prices of comparable properties and considering the very same factors of location, size, quality, design, age, condition, desirability, and usefulness, which were considered by the buyer.

The commercial appraiser will find that since commercial property is not bought and sold as frequently as is residential property, the sales market cannot be readily established. By relying heavily on the income approach to value, the net economic rent that the property is capable of yielding can be determined, and the amount of investment required to effect that net return at a rate commensurate with that normally expected by investors could also be determined. This can only be achieved through a comprehensive study of the income-producing capabilities of comparable properties and an analysis of present-day investment practices.

The industrial appraiser will not be able to rely on the market data approach because of the absence of comparable sales, each sale generally reflecting different circumstances and conditions. Also, it is not possible to rely upon the income approach, again because of the absence of comparable investments, and because of the inability to accurately determine the contribution of each unit of production to the overall income produced. Therefore, by relying heavily on the cost approach to value, a determination must be

made of the upper limit or replacement cost new of each improvement and the subsequent loss of value resulting overall from physical, functional and economic factors.

The fact that there are different approaches to value, some of which are more applicable to one class of property than to another, does not, by any means, preclude equalization between classes. Remember that the objective in each approach is to arrive at a price which an informed and intelligent person, fully aware of the existence of competing properties and not being compelled to act, is justified in paying for any one particular property. Underlying, and fundamental to each of the approaches is the comparison process. Regardless of whether the principal criteria are actual selling prices, income-producing capabilities, or functional usefulness, like properties must be treated alike. The primary objective is equalization (the equitable distribution of the tax burden). The various approaches to value, although valid in themselves, must nevertheless be coordinated one to the other in such a way as to produce values that are not only valid and accurate, but are also equitable. The same "yardstick" of values must be applied to all properties, and must be applied by systematic and uniform procedures.

It is obvious that sales on all properties are not required to effectively apply the market data approach. The same is true regarding any other approach. What is needed is a comprehensive record of all the significant physical and economic characteristics of each property in order to compare the properties of "unknown" values with the properties of "known" values. All significant differences between properties must in some measure, either positively or negatively, be reflected in the final estimate of value.

Each property must be given individual treatment, but the treatment must be uniform and standardized, and essentially no different than that given to any other property. All the factors affecting value must be analyzed and evaluated for each and every property within the entire political unit. It is only by doing this that equalization between properties and between classes of properties can be ultimately affected.

All this, at best, is an oversimplification of the equalization process underlying the entire Mass Appraisal Program. The program itself consists of various operational phases, and its success depends primarily upon the systematic coordination of collecting and recording data, analyzing the data, and processing the data to an indication of value.

SALES RATIO

General Discussion

One of the most used methods of analyzing sales is the sales ratio. Property tax is an ad valorem tax (according to value) and because value is defined as "market" value and

because market value is evaluated by measuring "sales" of properties in the market place, then the quality of a group of assessments may be evaluated by measuring their ratio to the real estate sales from the same geographical area as of the assessments. Assessment/sales ratio study is the comparing of appraised value to sale prices.

The word "ratio" is a statistical term that, when numerically expressed, simplifies the comparison of magnitude of numbers. They are various types of ratios, distinguished by their base of comparison, that is the denominator of the fraction, and they may take the form of fractions, proportions, percentages or rates. Some of the leading types of ratios are the result of comparing a part to its whole, comparing a part to a part within a whole, or comparing one whole to another whole.

The assessor's office main purpose is to value all properties uniformly and equitably. Therefore, it is incumbent on the appraiser to place property values that represent the current probable selling price or some constant fraction thereof.

One of the most meaningful and useful tools in measuring the quality of the real property appraisal is the ratio study. The measurements (commonly referred to as ratio studies and median assessment levels) can be either in the aggregate or sectional and are found by comparing the value placed on properties which have sold with the amount for which the property actually sold.

Caution should be used when reviewing sales ratio results for the properties that comprise a sales file which does not always constitute a representative sample of the property type (class) population within the County. The calculated results could be biased, even if carefully weighted for some important classes of properties are seldom, if ever, sold.

DATA INVENTORY

Basic to the appraisal process is the collecting and recording of pertinent data. The data will consist of general supporting data, referring to the data required to develop the elements essential to the valuation process; neighborhood data, referring to information regarding pre-delineated neighborhood units; and specific property data, referring to the data compiled for each parcel of property to be processed into an indication of value by the cost, market and/or income approach.

The data must be comprehensive enough to allow for the adequate consideration of all factors that significantly affect property values. In keeping with the economics of a mass appraisal program, it is costly and impractical to collect, maintain, and process data of no or marginal contribution to the desired objectives. The axiom "too much data is better than insufficient data" does not apply. What does apply is the proper amount of data, no more or no less, which is necessary to provide the database necessary to generate the desired output.

Cost data must be sufficient enough to develop or select and validate the pricing schedules and cost tables required to compute the replacement cost new of improvements needed to apply the cost approach to value.

All data pertaining to the cost of total buildings in place should include the parcel identification number, property address, and date of completion, construction cost, name of builder, source of information, structural characteristics, and other information pertinent to analysis.

Cost information may be recorded on the same form (unassigned property record card) used to record specific property data.

The principal sources for obtaining cost data are builders, suppliers, and developers, and it is generally advisable to collect cost data in conjunction with new construction pick-ups.

Sales data must be sufficient enough to provide a representative sampling of comparable sales needed to apply the market data approach, to derive unit land values and depreciation indicators needed to apply the cost approach, and to derive gross rent multipliers and elements of the capitalization rate needed to apply the income approach.

All sales data should include the parcel identification number, property qualification code, month and year of sale, selling price, source of information, i.e., buyer, seller, agent, or fee, and a reliable judgment as to whether or not the sale is representative of a true arm's length transaction.

Sales data should be recorded on the same form (assigned property record card) used to record specific property data, and verified during the property-listing phase.

The principal source for obtaining sales data is the County Register of Deeds Office, MLS, Sales Letters, Fee Appraisers and the real estate transfer returns. Other sources may include developers, realtors, lending institutions, and individual owners during the listing phase of the operation.

Income and expense data must be sufficient enough to derive capitalization rates and accurate estimates of net income needed to apply the income approach. Income and expense data should include both general data regarding existing financial attitudes and practices, and specific data regarding the actual incomes and expenses realized by specific properties.

The general data should include such information as equity return expectations, gross rentals, vacancy and operating cost expectations and trends, prevailing property management costs, and prevailing mortgage costs.

Specific data should include the parcel identification number, property address (or building ID), source of information, the amount of equity, the mortgage and lease terms, and an itemized account of the annual gross income, vacancy loss, and operating expenses for the most recent two-year period.

The general data should be documented in conjunction with the development of capitalization procedural guidelines. The specific data, since it is often considered confidential and not subject to public access, should be recorded on special forms, designed in such a way as to accommodate the property owner or agent thereof in submitting the required information. The forms should also have space reserved for the appraiser's analysis and calculations.

The principal sources for obtaining the general financial data are investors, lending institutions, fee appraisers and property managers. The primary sources for obtaining specific data are the individual property owners and/or tenants during the listing phase of the operation.

Neighborhood data. At the earliest feasible time during the data inventory phase of the operation, and after a thorough consideration of the living environment and economic characteristics of the overall county, or any political sub-division thereof, the appraisal staff should delineate the larger jurisdictions into smaller "neighborhood units," each exhibiting a high degree of homogeneity in residential amenities, land use, economic trends, and housing characteristics such as structural quality, age, and condition. The neighborhood delineation should be outlined on an index (or comparable) map and each assigned an arbitrary Neighborhood Identification Code, which when combined with the

parcel identification numbering system, will serve to uniquely identify it from other neighborhoods.

Neighborhood data must be comprehensive enough to permit the adequate consideration of value-influencing factors to determine the variations in selling prices and income yields attributable to benefits arising from the location of one specific property as compared to another. The data should include the taxing district, the school district, the neighborhood identification code, special reasons for delineation (other than obvious physical and economic boundaries), and various neighborhood characteristics such as the type (urban, suburban, etc.), the predominant class (residential, commercial, etc.), the trend (whether it is declining, improving, or relatively stable), its accessibility to the central business district, shopping centers, interstate highways and primary transportation terminals, its housing characteristics, the estimated range of selling prices for residentially-improved properties, and a rating of its relative durability.

All neighborhood data should be recorded on a specially designed form during the delineation phase. The existing property record card can serve in this capacity as it contains the current data on file.

Specific property data must be comprehensive enough to provide the data base needed to process each parcel of property to an indication of value, to generate the tax roll requirements, to generate other specified output, and to provide the assessing officials with a permanent record to facilitate maintenance functions and to administer taxpayer assistance and grievance proceedings.

The data should include the parcel identification number, ownership and mailing address, legal description, property address, property classification code, local zoning code, neighborhood identification code, site characteristics, and structural characteristics.

All the data should be recorded on a single, specially-designed property record card customized to meet individual assessing needs. Each card should be designed and formatted in such a way as to accommodate the listing of information and to facilitate data processing. In addition to the property data items noted above, space must be provided for a building sketch, land and building computations, summarization, and memoranda. In keeping with the economy and efficiency of a mass appraisal program, the card should be formatted to minimize writing by including a sufficient amount of site and structural descriptive data that can be checked and/or circled. The descriptive data should be comprehensive enough to be suitable for listing any type of land and improvement data regardless of class, with the possible exception of large industrial, institutional, and utility complexes that require lengthy descriptions. In these cases, it will generally be necessary to use a specially- designed supplemental property record document, keyed and indexed to the corresponding property record card. The property record card should be made a permanent part of the assessing system, and used not only

in conjunction with the revaluation, but also to update the property records for subsequent assessments.

The specific property data should be compiled from existing assessing records and field inspections. The parcel identification number, ownership, mailing address, and legal description may be obtained from existing tax rolls. Property classification codes may also be obtained from existing tax rolls (whenever available) and verified in the field. Local zoning codes may be obtained from existing zoning maps. Neighborhood identification codes may be obtained from the neighborhood delineation maps. Lot sizes and acreage may be obtained from existing tax maps. The property address, and the site and structural characteristics may be obtained by making a physical inspection of each property.

In transferring lot sizes from the tax maps to the property record cards, the personnel performing the tasks must be specially trained in the use of standardized lot sizing techniques and depth tables, may be used, which are necessary to adjust irregular shaped lots and abnormal depths to account for variations from predetermined norms. In regard to acreage, the total acreage may be transferred, but the acreage breakdowns required for the valuation of agricultural, residential, forestry, commercial, and industrial properties must be obtained in the field from the property owner and verified by personal observation and aerial photographs, if available.

Field inspections or the listing of new construction must be conducted by the appraiser or qualified data collectors under the close supervision of the appraisal staff. During this phase of the operation, the lister must visit each property. In the course of the inspection, the following procedures must be adhered to.

Identification of the property.

View the property classification and zoning codes.

Recording the property address.
If possible interviewing the occupant of the building and recording all pertinent data.

Interior inspection of the building when requested by the property owner or when permissible.
Measuring and inspecting the exterior of the building, as well as all other improvements on the property, and recording the story height, and the dimensions and/or size of each.

Recording a sketch of the principal building(s), consisting of a plan view showing the main portion of the structure along with any significant attached exterior features, such as porches, etc. All components must be identified and the exterior dimensions shown for each.

Selection of and recording the proper quality grade of the improvement.

Selection of and recording the proper adjustments for all field priced items.

Reviewing the property record card for completeness and accuracy.

After the field inspection is completed, the property record cards must be submitted to clerical personnel to review the cards for completeness, calculate the areas, and make any necessary mathematical extensions.

Complete and accurate data are essential to the program. Definite standardized data collection and recording procedures must be followed if these objectives are to be met.

PROCESSING THE DATA

This phase of the operation involves the analysis of data compiled during the data inventory phase and the processing of that data to an indication of value through the use of the cost, market, and income approaches to value.

During the analytical phase, it will be necessary to analyze cost, market, and income data in order to provide a basis for validating the appropriate cost schedules and tables required to compute the replacement cost new of all buildings and structures; for establishing comparative unit land values for each class of property; for establishing the appropriate depreciation tables and guidelines for each class of property; and for developing gross rent multipliers, economic rent and operating expense norms, capitalization rate tables and other related standards and norms required to effect the mass appraisal of all the property within an entire political unit on an equitable basis.

After establishing the appropriate standards and norms, it remains to analyze the specific data compiled for each property by giving due consideration to the factors influencing the value of that particular property as compared to another, and then to process the data into an indication of value by employing the techniques described in the section of the manual dealing with the application of the traditional approaches to value.

Any one, or all three of the approaches, if applied properly, should lead to an indication of market value; of primary concern is applying the approaches on an equitable basis. This will require the coordinated effort of a number of individual appraisers, each appraiser acting as a member of a team, with the team effort directed toward a valid, accurate and equitable appraisal of each property within the political unit. Each property must be physically reviewed, during which time the following procedures must be adhered to.

- verification of the characteristics recorded on the property record card.

- certification that the proper schedules and cost tables were used in computing the replacement cost of each building and structure.

- determination of the proper quality grade and design factor to be applied to each building to account for variations from the base specifications.

- making a judgment of the overall condition, desirability, and usefulness of each improvement in order to arrive at a sound allowance for depreciation.

- capitalization of net income capabilities into an indication of value in order to determine the loss of value attributable to functional and economic obsolescence.

- addition of the depreciated value of all improvements to the land value, and reviewing the total property value in relation to the value of comparable properties.

At the completion of the review phase, the property record cards must be, once again, submitted to clerical personnel for final mathematical calculations and extensions, and a final check for completeness and accuracy.

Once the final values have been established for each property, the entire program should be evaluated in terms of its primary objectives . . .. do the values approximate a satisfactory level of market value, and what's more important, are the values equitable? Satisfactory answers to these questions can best be obtained through a statistical analysis of recent sales in an appraisal-to-sale ratio study, if sufficient sales are available.

To perform the study, it is necessary to take a representative sampling of recent valid sales and compute the appraisal-to-sale ratio for each of the sales. If the sample is representative, the computed median appraisal-to-sale ratio will give an indication of how close the appraisals within each district approximates the market value. This is providing, of course, that the sales included represent true market transactions. It is then necessary to determine the deviation of each individual appraisal-to-sale ratio from the median ratio, and to compute either the average or the standard deviation, which will give an indication of the degree of equity within each individual district. What remains then is to compare the statistical measures across property classes in order to determine those areas, if any, which need to be further investigated, revising the appraisal, if necessary, to attain a satisfactory level of value and equity throughout the entire jurisdiction.

The techniques and procedures set forth herein, if applied skillfully, should yield highly accurate and equitable property valuations, and should provide a sound property tax base. It should be noted, however, that no program, regardless of how skillfully administered, can ever be expected to be error- free. The appraisal must be fine-tuned and this can best be done

by giving the taxpayer an opportunity to question the value placed upon his property and to produce evidence that the value is inaccurate or inequitable. During this time, the significant errors will be brought to light, and taking the proper corrective action will serve to further the objectives of the program. What's important in the final analysis is to use all these measures as well as any other resources available to achieve the highest degree of accuracy and equity possible.

DATA INVENTORY FORMS

Appraisal forms and descriptions are as follows:

Property Record Card Specifications
Neighborhood Form
Land Form
Operating Statement (I & E)
Personal and Real Guide

(Forms are attached below)

Schedule of Values — Chatham County 2017

Parcel ID _____ Property Loc. _____ _____ M.H. #_____ AVLF___ AVLZ___

Main Area Type MA ___

12W Condo Frame	30M Manufact. Masonry
12M Condo Masonry	30S Manufact. Single
12C Condo Mas/Fr	30P Personal Man.
18W Duplex Frame	37W Single Fam. Frame
18M Duplex Masonry	37M Single Fam. Mas
18C Duplex Mas/Fr	37C Single Fam. Mas/Fr
30W Manufact. Frame	

Exterior Walls EW __

01 Brick	08 Aluminum/Vinyl
02 Stone	09 Metal
03 Concrete Block	10 Precast Panel
04 Stucco	11 Log
05 Wood Panel	12 Asphalt Roll
06 Wood Siding	13 Masonry/Frame
07 Asbestos	

Heating/Air conditioning AR ___

01 No Heat	06 Unit Heat
02 Flr/Wall Furnace	07 Pack. Heat/Cooling
03 Rad/Elect/Basebrd	08 Heat Pump
04 Radiant/Water	09 Cooling W/Ducts
05 Forced Hot Air	10 Manufact home A/C

Plumbing (8 fixtures PL __

__ Full Bath __ ½ Bath ___ Add Fix __ Total

Fireplace Fp __

02 Wood Stove Flue	06 2 Story Single
03 Prefab 1 Story	07 2 Story Double
04 1 Story Single	08 Prefab 2 Story
05 1 Story Double	09 Manufactured Home

Actual Age ____ **Story _____**

Quality Grade____ **CDU ___**

Percent Complete _____%

BedRm__ Baths __.__ Tot Rm ___

House Style __

01 Bi-Level	16 Log Home
02 Bungalow	17 Manufactured
03 Cabin	18 Modular
04 Cape Cod	19 Patio Home
05 Classical	20 Ranch
06 Colonial	21 English
07 Condo	22 Split Level
08 Contemporary	23 Terrace (Bunker)
09 Convent (pre ww2)	24 Townhouse
10 Conventional	25 Victorian
11 Cottage	26 "A" Frame
12 Custom	27 French Style
13 Duplex/Triplex	28 Spanish Style
14 Enclosed S/W	29 Other
15 Garage Apartment	30 Oriental

Foundation FN __

01 Earth	04 Perimeter Footing
02 Pier/Posr	05 Metal/Vinyl Skirting
03 Continuous Slab	

Basement BA __ BG Number Cars __

U Unfinished _____	Square Feet __ % MA
F Finished _____	Square Feet __ % MA
R Rec. Area _____	Square Feet __ % MA
UW Unfin/wlkout___	Square Feet __ % MA
FW Fin/wlkout_____	Square Feet __ % MA

Miscellaneous Structures

MS Code	Description	Size	QG	Year	Dep.
01 MS _____					
02 MS _____					
03 MS _____					
04 MS _____					
05 MS _____					
06 MS _____					
07 MS _____					
08 MS _____					
09 MS _____					

Comments

Sketch

YEAR____ MAKE_____ SIZE_____ Color____

Additions to Main Area

01 AC __	06 AC __	01 BrAdd	08 EncFP	13 FrGar	20 Stoop
02 AC __	07 AC __	02 BrGar	09 EncGP	15 FrStg	21 BrStg
03 AC __	08 AC __	04 Can	10 EncBP	16 FrGar/Hf	25 BrGar 11/2
04 AC __	09 AC __	05 Carpt	11 FrAdd	17 ScrPch	35 SunRm
05 AC __	10 AC __	06 CovPch	12 WdDk	19 FrScPch	41 FrGar/At

Miscellaneous Structures Codes

02 Bath House	24 Shop	41 Boat House
03 Bulk Barn	26 Stable/Horse	42 Boat Shelter
04 Canopy	27 Stock/Feed	43 M H Space
05 Carport	28 Storage Barn	45 Brick Garage
10 Frame Garage	29 Storage Bldg	47 Shed 3 Sides
17 Implem Shed	30 Swim Pool Con	48 Lean To
18 Lumber Shed	31 Tennis Courts	49 Utility Bldg RSF
20 Milk Parlor	32 Single M.H.	50 Swim Pool Vinyl
21 Poultry House	32S Single MH Stor	55 Car Shed
23 Shed Open Pole	40 Boat Dock	55E Car Shed Enc

LABARE DARCY L
WELCH DOUGLAS

310 DANBURY CT

PITTSBORO NC 27312-

PARCEL I.D.. 0084489
LOCATION... 310 DANBURY CT
DEED YEAR/BOOK/PAGE.. 2008 1399 0457
PLAT BOOK/PAGE.. 2006 0313
LEGAL DESC: LOT 30

TOWNSHIP... 5 CENTER
POWELL PLACE

PIN... 9742 00 87 2146
PITTSBORO
ASSESSMENT PLF
OWNER I.D.. 1305546
DISTRICT.. 201 PITTSBORO CITY

NBRHOOD... PI039 POWELL PLACE
DESCRIPTION RESIDENTIAL

MAINTAINED.. 2/11/2016 BY KAREN VALUED.. 5/14/2016 BY KARENRV
VISITED..... 7/22/2008 BY WS PREV PARCEL 0082650
PARCEL STATUS... ACTIVE
*****

ROUTING#..
CATEGORY.. REAL PROPERTY

* LAND VALUED BY NEIGHBORHOOD BASE RATE METHOD *

SALES HISTORY

DEED BK/PAGE	SALE DATE	SALES INSTRUMENT	DISQUALIFIED	SALE AMOUNT	STAMP AMOUNT	DEED NAME
1399 0457	4/25/2008	WARRANTY DEED	QUALIFIED	189,000	378.00	LABARE DARCY L & DOUGLAS WELCH
1296 0484	11/07/2006	WARRANTY DEED	2 OR MORE PARCE	714,000	1,428.00	ARVIDA MID-ATLANTIC HOMES INC
1187 0603	8/25/2006	SPLIT	OTHER			BUILDER RESOURCE & DEVELOPMENT

LAND SEGMENTS

LND #	ZONE	STRAT CODE	LAND TYPE/CODE	LAND QTY	AVERAGE LAND RATE	DPT%	SHP%	LOC%	SIZ%	OTH%	TOP%	TOT ADJ	CURRENT FMV
1		100	LT TH	1.000	25,000.00	.00	.00	100.00	.00	.00	.00	.00	25,000
	TOTAL ACRES..			.060								TOTAL LAND FMV..	25,000

IMPROVEMENT # 1 MAJOR IMPR-M

MAIN FIN AREA.. 1,584.00
STRAT..... 100
LOCATION #..... 310 DANBURY CT

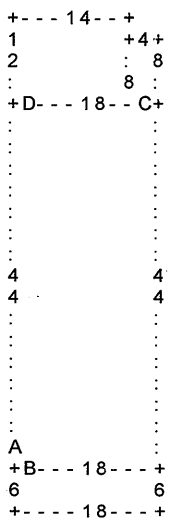
ACT/EFF YR/AGE.. 2007 2007 10
DESCRIPT.... CONVENTIONAL

VISITED.. 8/07/2015 BY BLB
MAINTAINED.. 2/11/2016 BY KAREN

	COMPONENT TYPE/CODE/DESC	PCT	UNITS	RATE	STR#	STR%	SIZ%	HGT%	PER%	CDS%	COST	%CMPL
AC 06	COVERED PORCH	100	108.00	28.00		100.00	100.00				3,024	
AC 12	FRAME DECK	100	168.00	16.30		100.00	100.00				2,738	
AC 15	FRAME/METAL STORAGE	100	32.00	26.15		100.00	106.00				887	
MA 37W	SINGLE FAMILY UNIT W	100	792.00	90.05	2.00		109.54				78,122	
MA 37W	(UPPER FLOORS)	100	792.00	90.05	2.00	65.00	109.54				50,779	
EW 06	WOOD SIDING	100	124.00	.00							0	
- FP 03	PREFABRICATED	0	1.00	1800.00							1,800	
- HC 07	PACKAGED HEAT/COOL	0	792.00	3.00			109.54				2,602	
- PL 02	NUMBER OF FIXTURES	0	2.00	1050.00							2,100	
											142,054	
	RCN...			PCT COMPLETE			100	x			156,259	
	QUAL.. QG C+10			QUALITY GRADE C+10			110.00	x				
	DEPR.. GD			DEPRECIATION TO 14 Y			3.00	-	4,687		4,687	T
	--FMV... MR PI039			POWELL PLACE			105.00	x			159,150	

LABARE DARCY L PARCEL I D.. 0084489 PI N... 9742 00 87 2146

---------- I MPROVEMENT # 1 MAJOR I MPR-M ----------



----------	AC 06	COVERED PORCH					--------- TRAVERSE ----------				
D R	18.00	D D	6.00	D L	18.00	D U	6.00				
----------	AC 12	FRAME DECK					--------- TRAVERSE ----------				
M U	44.00	D R	14.00	D U	12.00	D L	14.00	D D	12.00		
----------	AC 15	FRAME/METAL STORAGE					--------- TRAVERSE ----------				
M R	18.00	M U	44.00	D L	4.00	D U	8.00	D R	4.00	D D	8.00
----------	MA 37W	SI NGLE FAMI LY UNI T W	FLOOR:	1.00			--------- TRAVERSE ----------				
D U	44.00	D R	18.00	D D	44.00	D L	18.00				

TOTAL PARCEL VALUES----	LAND / OVR	I MPROVEMENTS / OVR	TOTAL LAND/I MPROVE	2016 VALUE
FMV.....	25,000	159,150	184,150	184,150
APV.....	25,000	159,150	184,150	184,150

---------- COMMENTS - ----------

PB 2006/313 LOT 30
SPLI T OUT OF BLOCK E 82650

LABARE DARCY L PARCEL I D.. 0084489 PI N... 9742 00 87 2146
DB 1399/457; JTW COMMON LAW RI GHT OF SURVI VORSHI P
SEE: NON-WD 1386/221

NEIGHBORHOOD DATA FORM

CHATHAM COUNTY NORTH CAROLINA

02 NEIGHBORHOOD ID

IDENTIFICATION & REFERENCE				MEMORANDUM
11	AREA NAME			
12	TAXING DISTRICT	13	NO.	
14	SCHOOL DISTRICT	15	NO.	
16	FIRE DISTRICT	17	NO.	

BOUNDARIES		CODES		DELINEATION CODES
21	NORTH	22		1. PHYSICAL BARRIERS
23	EAST	24		2. INCOME LEVEL CHANGE
25	SOUTH	26		3. VALUE RANGE CHANGE
27	WEST	28		4. USE OF LAND CHANGE

CHARACTERISTICS			
31	TYPE	35	DEMANDISUPPLY
32	PREDOMINANT LAND USE	36	DENSITY
33	RATE IN LIFE CYCLE	37	RATE OF TURNOVER
34	NEIGHBORHOO LIFE CYCLE	38	TYPICAL LAND SIZE

PREDOMINANT IMPROVEMENT TYPE					
03	BASE CALP INDEX	04	BASE CDU TABLE	05	NEIGHBORHOOD GROUP
06	TYPICAL CDU	07	TYPICAL GRADE		TYPICAL GRADE ADJUSTMENT
09	TYPICAL AGE GROUP (YEARS)	10	TYPE		

PREDOMINANT OCCUPANCY				TYPICAL PROPERTY FACTORS				EST. MARKET VALUE FOR RES. IMPROVED PROP.	
51	OWNER	52	TENANT	61	UTILITIES	62	STREET OR ROAD	71	MINIMUM
53	VACANCY		VACANT STRUCTURES					72	MAXIMUM
54	CHANGE IN USE						(PREDOMINANT)		
55	PROBABLE NEW USE							73	MEDIAN

NOTES	
74	ZONING
75	MAPS

Chatham County North Carolina
LAND TYPES AND RATES

Neighborhood_____

Neighborhood Name_____

Acreage = AC Lot = LT Square Ft = SS Site Imp. = SI

LAND TYPE	LAND DESCRIPTION	AC	LT	SS	SI
B	Primary				
B1	Primary/Public Water				
S	Secondary				
S1	Secondary/Public Water				
U	Undeveloped				
R	Residual				
O	Open				
D	Woodland				
W	Waste				
CA	Common Area				
APT	Apartment Site				
WF	Waterfront				
WF1	Waterfront Public Water				
CB	Commercial Primary				
CU	Commercial Undeveloped				
CS	Commercial Secondary				
CR	Commercial Residual				
GC	Golf Course				
IB	Industrial Primary				
IU	Industrial Undeveloped				
IS	Industrial Secondary				
IR	Industrial Residual				
EB	Exempt Primary				
EU	Exempt Undeveloped				
ES	Exempt Secondary				
ER	Exempt Residual				
FP	Flood Plain				
WS	Well/Septic				
CS	County Water/Septic				
WPS	Well/County Sewer				

OPERATING STATEMENT (I&E)

The Operating Statement (I&E) is designed to collect and analyze income and expense information on income producing properties. With this information, the appraiser is able to estimate value through capitalization of income. The Operating Statement is divided into four major categories: Market Data, Cost Data, Remodeling Data, and Income and Expense Data. The Income and Expense area of the statement is divided into three specialized areas: Apartments, General Commercial (retail, warehousing, industry), and Office Buildings. The purpose of the specific income and expense areas is to allow the property owner/manager space to enter applicable income, expense, and amenity data.

MARKET DATA

Space is provided to enter any sales information for both vacant and improved parcels. In addition, space is provided to enter the value of any personal property, inventories, or licenses that may have been included in the purchase price. Also, space is provided to enter the percent of mortgage, mortgage term, and interest rate.

COST DATA

Space is provided to enter any construction cost information that is available concerning the subject property. When possible, sizes of additions, paving, etc., should be entered under the comments area.

REMODELING DATA

Space is provided to enter the cost and a description of significant remodeling that has been associated with the building, the year of the remodeling, and whether the cost was attributable to the owner or a tenant.

APARTMENTS - OPERATING STATEMENT

Space is provided to enter a detailed current quoted rent per month by unit type. In instances where rents are computed on a square foot basis, space is provided to note the total apartment complex rentable area.

Project amenities and unit built-ins should be noted as to what is included/available in the apartment complex. The owner expense statement includes areas to enter what is paid by the owner and the costs associated for a two year period. The occupancy percentage should be entered in the space provided. Space is also provided to enter the number of garage/carport spaces available and the monthly rental charge, if applicable.

GENERAL RETAIL, WAREHOUSING, INDUSTRIAL, OTHER- OPERATING STATEMENT

This area is designed to enter income and expense amounts on general retail (retail sales), small industrial, and warehouse type facilities. Space is provided to enter the tenants, floor level, lease term, and floor area of the lease.
Expenses are broken down into the general areas of insurance, taxes, maintenance, and utilities. Actual expense should be entered when available.

OFFICE BUILDING - OPERATING STATEMENT

This area of the operating statement is to enter the applicable income and expense information for office buildings. Space is provided to enter the building total gross area, net rentable area, and lease terms, i.e., on a total gross or net rentable area. The amount of retail area should be entered together with the current occupancy rate. The income statement is designed to quote rent per square foot, based on floor level and whether escalation of rental clause is included. The expense area is broken down into three major categories: insurance and taxes, building maintenance, and utilities. Actual expense should be entered by category if available.

CHATHAM COUNTY
NORTH CAROLINA

PEARSON
APPRAISAL SERVICES
INCORPORATED

Return this form by email or mail to:
Attn: Pearson Appraisal Service
P.O. Box 908
Pittsboro, NC 27312
919.542.8298
tax.revaluation@chathamnc.org

Fred W. Pearson, Assessor
P.O. Box 36404
Richmond, VA 23235
888-573-2776

«MLNAM»
«MFNAM»
«MADD1»
«MADD2»
«MCITY», «MSTATE» «MZIP5»-«MZIP4»

Record Number(s): «MRECNO»
PROPERTY ADDRESS: «MHSE»

Chatham County is in the process of collecting information to be used for the 2017 reassessment effective January 1, 2017. Pursuant to the requirements of the laws of this state, this office is required to review for assessment purposes all properties, and estimate market values. As part of these requirements we must consider a fair and reasonable capitalization of the income attributable to income producing properties. As an owner of income producing property you are aware of the impact that economic factors have on property valuation. In order to arrive at a fair and equitable value of your property please complete this questionnaire and return by October 1, 2016. If the format of this form is not convenient, attach a copy of your operating statement or e-mail to tax.revaluation@chathamnc.org.

This is voluntary and you may be assured the information you supply will be treated in a confidential manner.

Management firm or person completing this form

Name: _____ Phone # _____

MARKET DATA	PURCHASED LAND ONLY FOR $ _____ IN 20 ____	PURCHASED LAND AND BUILDING FOR $ _____ IN 20 ____	LAND SIZE _____
	PLEASE INDICATE THE AMOUNT IF ANY, OF THE PURCHASE PRICE PAID FOR CONSIDERATIONS OTHER THAN REAL ESTATE. ITEMS; AMOUNT $ _____		

CURRENT COST DATA

Complete cost information *only* if new construction is within the last 2 years.

1. All cost should include labor, materials, architectural fees, and the builder's overhead and profit.
2. Building costs should include the structure, and all mechanical features such as electric, plumbing, heating, air conditioning, sprinkler, and elevators.
3. Site improvements refer to features such as site preparation, utility services, and landscaping.
4. If cost includes items not considered real estate, please indicate under comments the items and the costs.

	COST	YEAR	COST	YEAR	COMMENTS
SITE IMPROVMENTS					
BUILDINGS					
ADDITIONS TO ORIGINAL BUILDING					
PAVING					
OTHER YARD ITEMS					
TOTAL					

RESPONSIBILITIES	
TENANT	OWNER
___ CLEANING.....	___
___ RUBBISH REMOVAL.....	___
___ BUILDING MAINT.....	___
___ PARTING LOT MAINT.....	___
___ INSURANCE.....	___
___ REAL ESTATE TAXES.....	___
___ HEATING.....	___
___ AIR CONDITIONING.....	___
___ ELECTRIC.....	

3. VACANCY INFORMATION

Overall vacancy rate for 2015 (if applicable):_____

Overall vacancy rate for 2014:_____

Overall vacancy rate for 2013:_____

4. RESIDENTIAL SPACE FOR LEASE (if applicable)

Leasable Residential Space: (square feet):_____

Monthly Rent:_____

Services provided by landlord and included in rent:_____

ANNUAL EXPENSES LAST 2 YEARS			
ANALYSIS		20___	20___
MANAGEMENT	FEE		
	COMMISSIONS		
	LEGAL AND ACCOUNTING		
GENERAL	PAYROLL TAXES		
	GROUP INSURANCE		
	BUILDING SUPPLIES		
	RUBBISH REMOVAL		
	MISCELLANEOUS		
CLEANING	WAGES		
	SUPPLIES		
	CONTRACT SERVICES		
UTILITIES	ELECTRIC		
	HEATING		
	WATER		
	AIR CONDITIONING		
CONSTRUCTION	DECORATING		
	REPAIRS AND MAINTENANCE		
FIXED EXPENSE	INSURANCE		
	REAL ESTATE TAXES		
	OTHER TAXES		
	DEPRECIATION		
	INTEREST		
	LAND RENT		
RESERVES FOR REPLACEMENTS			
TOTAL			

FOR APPRIASERS USE ONLY - INCOME APPROACH	
POTENTIAL GROSS INCOME.....	
LESS VACANCY AND CREDIT LOSS.....	
EFFECTIVE GROSS INCOME.....	
LESS OPERATING EXPENSES.....	
LESS RESERVES FOR REPLACEMENTS.....	
NET INCOME BEFORE CAPITAL RECAPTURE	
INPUTABLE TO LAND _____ @ ___ % →	=
INPUTABLE TO BUILDING _____ @ ___ % →	=
RESIDUAL LAND/BUILDING _____ = ___ % ←	@
INDICATED PROPERTY VALUE _____	
APPRAISED VALUE _____	

REMODELING DATA	PLEASE INDICATE THE SCOPE AND COST OF SIGNIFICANT REMODELING.		COST PAID BY	
YEAR	DESCRIPTION	COST	OWNER	TENANT

ADDITIONAL INFORMATION

Please provide any additional information you consider pertinent to the valuation of your property.

_____

_____

1. Name of Business: _____

1. BUILDING CHARACTERISTICS

a. Type Business: _____
if shopping center: (Strip, Neighborhood, Community, Regional, Downtown) _____

b. Total Building Square Foot Space _____

c. Gross Leasable Area (Square Footage Designed for Tennant Occupancy _____

2. LEASE SUMMARY

Tenant(s)	Suite #	Floor Area (SF)	Annual Receipt Data				
			Base Rent ($/sf)	Common Area Charge ($/sf)	Other Collections ($/sf)	Total Receipts ($/sf)	Overage Rent (Yes or No)
Example: ABC Retail Sales		*1,300*	*$9.86*	*$0.34*	*$0.10*	*$10.30*	*No*

CLASSIFICATIONS OF SELECTED ITEMS AS REAL OR PERSONAL

N.C. 105-273. Definitions

(13) "Real property," "real estate," and "land" mean not only the land itself, but also buildings, structures, improvements, and permanent fixtures on the land, and all rights and privileges belonging or in any way appertaining to the property.

(14) "Tangible personal property" means all personal property that is not intangible and that is not permanently affixed to real property.

In general, machinery and equipment used primarily as part of a manufacturing process (process equipment) is taken as Personal Property. Machinery and equipment which is part of the land or building improvement is taken as Real Property.

Item	Real	Personal
Acoustical fire resistant drapes & curtains (commercial/industrial)		XX
Air Conditioning - building air conditioning, for comfort of occupants, built-in	XX	
Air Conditioning - manufacturing / product		XX
Air Conditioning - window units, that used in data processing rooms and in manufacturing processing		XX
Airplanes		XX
Alarm system (security or fire) and wiring		XX
Alarm Systems (Fire) and Wiring - required by code	XX	
Asphalt plants - batch mix, etc., Moveable		XX
ATM - all equipment and self standing booths		XX
Auto exhaust systems - built-in floor or ceiling	XX	
Auto exhaust systems - flexible tube type		XX
Awnings		XX
Balers (paper, cardboard, etc.)		XX
Bank teller counters - service area and related	XX	XX
Bank teller lockers - moveable or built-in		XX
Bar and bar equipment (moveable or built-in)	XX	XX
Bulk Barns	XX	
Billboards		XX
Boats and motors - all		XX
Boiler - for service of building	XX	
Boiler - primarily for process		XX
Bowling alley lanes		XX
Broadcasting equipment		XX

C I P (construction in progress) equipment		XX
Cabinets (medical office and laboratories)	XX	
Cabinets (all others)	XX	XX
Cable TV distribution systems		XX
Cable TV equipment and wiring		XX
Cable TV subscriber connections		XX
Camera equipment		XX
Canopies - Fabric, Vinyl or Plastic		XX
Canopies – Generally	XX	
Canopy Lighting	XX	
Car Wash - all equipment, filters and tanks		XX
Carpet – installed	XX	
Catwalks		XX
Cement Plants (movable)		XX
Chairs - all types		XX
Closed circuit TV		XX
Cold storage - built-in cold storage rooms		XX
Cold storage - refrigeration equipment		XX
Compressed air or gas systems (other than building heat)		XX
Computer room a/c		XX
Computer room raised floor		XX
Computers and data lines		XX
Computer scanning equipment		XX
Concrete plant - electronic mixing, conveyors, tanks, etc.		XX
Construction and grading equipment (non-licensed vehicles, etc.)		XX
Control systems - building and equipment		XX
Conveyors and material handling systems		XX
Cooking equipment (restaurant, etc.)		XX
Coolers - walk-in or self standing		XX
Cooling towers - primary use for building	XX	
Cooling towers - primary use in manufacturing		XX
Counters/Reception desk – movable or built-in		XX
Dairy processing plants - all process items		XX
Dance floors		XX
Data processing equipment - all items		XX
Deli equipment		XX
Desks – all		XX
Diagnostic center equipment - moveable or built in		XX
Display cases - moveable or built-in		XX
Dock levelers	XX	
Drapes and curtains, blinds, etc.		XX
Drinking fountains	XX	
Drive-thru windows - all	XX	XX
Drying systems (special heating in process system)		XX

Dumpsters		XX
Dust catchers, control systems, etc.		XX
Electronic control systems (weighting, mixing, etc.)		XX
Elevators / Escalators	XX	
Fans - freestanding		XX
Farm equipment	XX	XX
Fencing - inside		XX
Fencing - outside	XX	
Flagpole		XX
Floors, computer room		XX
Floors – raised, padded, special purpose		XX
Foundations for machinery & equipment		XX
Freight charges		XX
Fuels - not for sale (list as supplies)		XX
Furnaces - steel mill process, etc., foundry		XX
Furniture and fixtures		XX
Gazebos & Pergolas	XX	
Golf course & improvements (drainage / irrigation)	XX	
Grain bins	XX	XX
Grease traps	XX	
Greenhouses (all except glass)		XX
Greenhouses - Glass	XX	
Greenhouses benches, heating systems, etc		XX
Greenhouses – structure if permanently affixed	XX	
Heating systems, process		XX
Hoppers - metal bin type		XX
Hospital systems - oxygen, public address, emergency electric, closed T.V. call system, autoclave, etc.		XX
Hot air balloons		XX
Hotel/Motel televisions & wiring		XX
Humidifiers, process		XX
Incinerators - moveable, metal type		XX
Industrial piping, process		XX
Installation cost		XX
Irrigation equipment		XX
Irrigation equipment – portable		XX
Kiln heating system		XX
Kilns - metal tunnel, moveable		XX
Laboratory equipment		XX
Lagoons / settling ponds	XX	XX
Laundry bins		XX
Law and professional libraries		XX
Leased equipment - lesser or lessee possession		XX
Leasehold improvements (list in detail yearly to determine real or personal)	XX	XX

Lifts - other than elevators		XX
Lighting - portable, moveable, special		XX
Lighting - yard lighting	XX	
Machinery and equipment		XX
Medical equipment		XX
Milk handling - milking, cooling, piping, storage		XX
Millwork		XX
Mineral rights	XX	
Mirrors (other than bathroom)		XX
Molds		XX
Mobile home - single wide, double wide, triple wide		XX
Mobile home - single wide, double wide, triple wide – meets definition of G.S. 105-273(13)	XX	
Monitoring systems - building or equipment		XX
Newspaper stands		XX
Night depository		XX
Office equipment - all		XX
Office supplies (list as supplies)		XX
Oil company equipment - pumps, supplies, etc.		XX
Ovens - processing / manufacturing		XX
Overhead conveyor systems		XX
Package and labeling equipment		XX
Paging systems		XX
Painting - interior, commercial	XX	
Paint spray booths		XX
Paving	XX	
Piping systems - process piping		XX
Playground equipment - all		XX
Pneumatic tube systems		XX
Portable buildings (greenhouses, constructions, etc.		XX
Power generator systems (auxiliary emergency, etc.)		XX
Power house or plant		XX
Power transformers - equipment		XX
Public address systems (intercom, music, etc.)		XX
Railroad sidings (other than railroad-owned	XX	
Refrigeration systems - compressors, etc		XX
Repairs - building	XX	
Repairs (Major) - equipment (50% cost)		XX
Restaurant furniture (incl. attached to floor or building)		XX
Restaurant/kitchen equip. - vent hoods, sinks, etc. (commercial)		XX
Returnable containers		XX
Rock crusher		XX
Roll-up doors (inside wall)		XX
Roll-up doors (outside wall)	XX	

Roofing	XX	
Room dividers/partitions – movable or built-in		XX
Rooms - self contained or special purpose (walls, ceiling, floor)		XX
Safes (wall or self-standing)		XX
Sales tax		XX
Satellite dishes (all wiring & installation to TV & equipment		XX
Scale houses (unless portable)	XX	
Scales		XX
Security systems		XX
Screens - drive-in, outdoor	XX	
Screens - movie, indoor		XX
Seats – theater		XX
Service station equipment - pumps, tanks, lifts		XX
Sewer systems	XX	
Shelving		XX
Signs - all types (including billboards, etc.)		XX
Silos	XX	
Sinks – bathroom (includes medical & dental offices)	XX	
Software - capitalized		XX
Solar equipment used to heat & cool building	XX	
Solar equipment photovoltaic & solar thermal		XX
Solar equipment farm electricity generation		XX
Sound projection equipment		XX
Sound systems		XX
Spare parts - list as supplies		XX
Speakers - Built-in or freestanding		XX
Spray booths		XX
Sprinkler system - attached to product storage racks		XX
Sprinkler system - fire protection (building)	XX	
Supplies (office and other)		XX
Swimming pool filtration equipment	XX	
Swimming pool heater equipment		XX
Swimming pools - in ground or indoor	XX	
Switchboard (motel, etc., when not owned by utility		XX
Tanks - permanently affixed structure, etc. (e.g., bulk plant)	XX	XX
Tanks - manufacturing, process, etc		XX
Tanks - service station, underground fuel		XX
Telephone systems and wiring - private		XX
Tents		XX
Theatre screens indoor		XX
Theatre screens outdoor	XX	
Tooling, dies, molds		XX
Towers - microwave and equipment, wiring and foundation		XX
Towers - TV, radio, CATV, two-way radio, wiring and		XX

foundation		
Trailers designed to be pulled behind vehicle		XX
Transportation cost - all		XX
Tunnels - unless part of process system	XX	
Upgrades to equipment		XX
Vacuum system, process		XX
Vault	XX	
Vault door, inner gates, vents and equipment		XX
Vending machines		XX
Vent fans - freestanding		XX
Ventilation systems - general building	XX	
Ventilation systems - manufacturing, process, etc.		XX
Video tapes / movies / reel movies		XX
Wall covering	XX	
Walls - Partitions, moveable and room dividers		XX
Water coolers - all		XX
Water lines - for process, above or below ground		XX
Water systems - residential or general building	XX	XX
Water tanks, process equipment		XX
Water wells if used for irrigation only	XX	
Whirlpool / Jacuzzi / Hot tubs	XX	XX
Wind tunnel equipment		XX
Wiring - power wiring for machinery and equipment		XX

REPLACEMENT COST SCHEDULES & TABLES

ESTIMATING REPLACEMENT COST NEW

The informed buyer is not justified in paying anything more for a property than what it would cost him to acquire an equally desirable substitute property. Likewise, the upper limit of value of most improvements is the cost of reproducing an equally desirable substitute improvement. It follows, then, that a uniform starting point for an Equalization Program is to determine the Replacement Cost New of each and every improvement.

REPLACEMENT COST

Replacement Cost is the current cost of producing an improvement of equal utility to the subject property; it may or may not be the cost of reproducing a replica property. The distinction being drawn is one between Replacement Cost, which refers to a substitute property of equal utility, as opposed to Reproduction Cost, which refers to a substitute replica property.

The Replacement Cost of an improvement includes the total cost of construction incurred by the builder, whether preliminary to, during the course of, or after completion of its construction. Among these are materials, labor, all sub-contracts, builder's overhead and profit, architectural and engineering fees, consultation fees, survey and permit fees, legal fees, taxes, insurance and the cost of interim financing.

PRICING SCHEDULES

Pricing schedules and related cost tables are included in this manual to assist the appraiser in arriving at accurate estimation of Replacement Cost New. They have been developed by applying unit-in-place costs to the construction of specified hypothetical or model buildings. Application of the schedules involves the selection of the model which most nearly resembles the subject building and adjusting its price to compensate for all significant variations.

Pricing schedules are included for various types of Residential, Agricultural, Institutional, Commercial and Industrial structures.

Cost adjustments for the variations which are most frequently encountered in a particular type building are included. Adjustments for other variations may be made by using either the other Feature Cost Tables or other appropriate schedules

SELECTING THE PROPER QUALITY GRADE

The quality of materials and workmanship is the one most significant variable to be considered in estimating the replacement cost of a structure. Two buildings may be built from the same general plan, each offering exactly the same facilities and with the same specific features, but with widely different costs due entirely to the quality of materials and workmanship used in their construction. For instance, the cost of a dwelling constructed of high quality materials and with the best of workmanship throughout can be more than twice that of one built from the same floor plan, but with inferior materials and workmanship.

The schedules included in this manual have been developed to provide the appraiser with a range of grades comprehensive enough to distinguish all significant variations in the quality of materials and workmanship which may be encountered; the basic specifications for each grade as to the type of facility furnished remain relatively consistent throughout, and the primary criterion for establishing the grade being the overall quality of materials and workmanship.

The majority of buildings erected fall within a definite class of construction, involving the use of average quality of materials with average quality of workmanship. This type of construction being the most common, it can readily be distinguished by the layman as well as the professional appraiser. Consequently, better or inferior quality of construction can be comparatively observed. The quality grading system and pricing schedules in this manual are keyed to this obvious condition; the basic grade being representative of that cost of construction using average quality of materials with average quality workmanship. The principal Quality Grade classifications are as follows:

Grade AAA	Superior Quality
Grade AA	Excellent Quality
Grade A	Very Good Quality
Grade B	Good Quality
Grade C	Average Quality
Grade D	Fair Quality
Grade E	Poor Quality

The seven grades listed above will cover the entire range of construction quality, from the poorest quality to the finest quality.

The general quality specifications for each grade are as follows:

AAA Grade Buildings generally having an exceptional architectural style and design, constructed with the finest quality materials and custom workmanship. Superior quality interior finish, built-in features, deluxe heating system, plumbing and lighting fixtures.

AA Grade Buildings generally having an outstanding architectural style and design, constructed with the finest quality materials and workmanship. Superior quality interior finish, built-in features, deluxe heating system, plumbing and lighting fixtures.

A Grade Architecturally attractive buildings constructed with excellent quality materials and workmanship throughout. High quality interior finish and built-in features. Deluxe heating system and very good grade plumbing and lighting fixtures.

B Grade Buildings constructed with good quality materials and above average workmanship throughout. Moderate architectural treatment. Good quality interior finish and built-in features. Good grade heating, plumbing and lighting fixtures.

C Grade Buildings constructed with average quality materials and workmanship throughout, conforming to the base specifications used to develop the pricing schedule. Minimal architectural treatment. Average quality interior finish and built-in features. Standard grade heating, plumbing and lighting fixtures.

D Grade Buildings constructed with economy quality materials and fair workmanship throughout. Void of architectural treatment. Cheap quality interior finish and built-in features. Low grade heating, plumbing and lighting fixtures.

E Grade Buildings constructed with a very cheap grade of materials, usually "culls" and "seconds" and very poor quality workmanship resulting from unskilled, inexperienced, "do-it-yourself" type labor. Low grade heating, plumbing, and lighting fixtures.

In order to facilitate using this grading system, and again to promote and maintain uniformity in approach, the value relationship of grade to grade as just described has been incorporated into the development of the base specifications relating to each schedule used in the manual.

Note: The appraiser must exercise extreme caution not to confuse the concepts "quality" and "condition" when selecting the proper grade. This is especially applicable to older buildings, wherein a deteriorated condition can have a noticeable effect on their physical appearance. A building will always retain its initial grade of construction, regardless of its existing deteriorated condition. The Quality Grade ultimately selected must reflect that original built-in quality, and the selection of that grade cannot be influenced in any way by the physical condition of the building.

APPLYING THE PROPER GRADE FACTOR

Grading would be a relatively simple process if all buildings were built to conform to the quality grade specifications outlined above. The fact is, however, that this ideal condition does not exist. It is not unusual for any conventional building to be built incorporating construction qualities that fall between the established grade levels. The grading system in this manual has been designed in such a way as to provide the appraiser with a method for accounting for such variations by establishing intermediate grades.

If the Subject building is judged to be of a better or inferior quality than the actual grade levels, a grade factor of plus (+) or minus (-) should be applied, i.e., C+ would be better than a straight "C" Grade, B- poorer than a straight "B" Grade, etc.

There is rarely a clear-cut designation of a specific grade factor. The appraiser will generally select a range, such as C+ to B-, and then weigh the various quality factors exhibited in the construction in order to select the proper factor.

Following the above procedures results in the full range of Quality Grade Factors, examples of theses factors are listed below.

AAA 300%	B (+) 135%	D (+) 90%
AA (+)250%	B 128%	D 85%
AA 225%	B (-) 120%	D (-) 75%
AA (-) 200%	C (+) 110%	E (+) 65%
A (+) 175%	C 100%	E 55%
A 155%	C (-) 95%	E (-) 45%
A (-) 145%		

Note: the quality factor ultimately selected should represent a composite judgment of the overall Quality Grade. Generally, the quality of materials and workmanship is fairly consistent throughout the construction of a specific building; however, since this is not always the case, it is frequently necessary to weight the quality of each major component in order to arrive at the proper "overall" Quality Grade. Equal consideration must also be given to any "Additions" which are constructed of materials and workmanship inconsistent with the quality of the main building.

APPLYING THE PROPER COST AND DESIGN FACTOR

Architectural fees, material quantities, labor efficiency, and other factors influencing total construction costs may vary considerable from one building to another, depending upon its particular design. Two dwellings, for instance, showing no marked difference in size and quality may still show a measurable difference in cost, attributable primarily to a difference in design.

In computing the replacement cost of any building, therefore, it is necessary to adjust the cost to account for any features varying significantly from the base specifications from which the pricing schedules were developed.

The pricing schedules included in this manual, unless otherwise specified, have been developed to reflect perimeter-to-area wall rations of rectangular shaped buildings, uniform eave lines and roof slopes, overhangs, ceiling heights, and other architectural features most typical of conventional designs.

The adjustment for variations in design must be made by applying a Cost and Design Factor denoting a percentage adjustment of the sub-total replacement cost, i.e., apply a +5% to indicate a 5% increase in the replacement cost, apply a +10% to indicate a 10% increase, etc.

The Cost and Design Factors applicable to dwellings will normally range from 85% to 115%. However, the Cost and Design Factors applicable to special architectural designs may range considerably higher. The selection of the proper Cost and Design Factor is largely a product of the experience and sound judgment of the appraiser, who must have the ability to analyze various construction components and determine the influence of each upon the overall cost.

APPLYING THE PROPER MARKET RATIO

The Market Ratio Adjustment to the dwelling normally ranges from 80% to 120%, but occasionally a higher or lower ratio maybe required. This adjustment becomes necessary after all the adjustments to the cost have been completed accurately but the value still needs to be adjusted to represent the sales market for an area. The sales information for the area will determine the amount of market adjustment required.

PRICING SCHEDULES AND COST TABLES

The Pricing Schedules and Cost Tables in this manual are provided to assist the appraiser in arriving at accurate and uniform valuations. Used properly, they should prove to be an invaluable tool. Quality valuations, however, are not the product of schedules and tables themselves, but rather of the appraiser's ability to use them effectively. In order to bring this about, a thorough understanding of the make-up and the capabilities and limitations of each schedule is essential. The appraiser must know the specifications, from which the base prices were derived, the composition of the prices, and the proper techniques and procedures for applying the prices. What's more important, the appraiser must be able to exercise good common sense and sound judgment in selecting and using them.

It should also be noted that the schedules and tables in the manual have been developed primarily for mass appraisal and tax equalization purposes. They have, therefore, been designed to provide the appraiser with an uncomplicated, fast, and effective method of arriving at an accurate estimate of replacement costs. In order to maintain simplicity in the schedules, techniques, and procedures, it is often necessary to make certain

compromises from a strictly technical and engineering point of view. Extensive effort has been made in developing the schedules to minimize these compromises and limit them to variables that have minimal influence on the final value of the building. The schedules have been designed to reflect actual building costs and practices. Field tests have proven them to be both accurate and reliable, and when applied properly, highly effective in arriving at realistic replacement costs. In the development of the cost approach and tables Marshall Valuation Services cost manual may be used as a cost reference.

GENERAL RESIDENTIAL PRICING SCHEDULES

RESIDENTIAL

QUALITY GRADE OR CLASS

The quality grade of materials and workmanship is the one most significant variable to be considered in estimating the replacement cost of a structure. Two buildings may be built from the same general plan, each offering exactly the same facilities and with the same specific features, but with widely different cost due entirely to the quality of materials and workmanship used in their construction. For instance, the cost of a dwelling constructed of high quality materials and with the best of workmanship throughout can be more than twice that of one built from the same floor plan but with inferior materials and workmanship prevailing.

The following schedule has been developed to distinguish between variations in cost. This schedule represents the full range of conventional dwelling construction. The basic specifications for each grade, as to type of facilities furnished is relatively constant; that is, each has a specific type of heating system, two bathrooms, kitchen unit, and other typical living facilities, but with variable quality of materials and workmanship prevailing.

The basic grade represents cost of construction using average quality materials, with average workmanship. The majority of dwellings erected fall within one class above and one class below the base grade of C. The layman or professional appraiser can readily distinguish between these classes. The three classes of grade of quality for this group of dwelling have been established as follows:

Grade B	Good	Quality 128%
Grade C	Average	Quality 100%
Grade D	Fair	Quality 85%

In order to justify variation in cost, maintain uniformity and retain complete control throughout the cost range, we have established these base grades. The pricing spread of 20% ± between each grade is based upon the use of better grade materials and higher quality workmanship from C Grade to B Grade. B Grade dwellings are found to have better individual features and interior finish, which reflects approximately 28% higher costs than C Grade. Likewise, the D Grade dwelling would be constructed of approximately 15% less quality than C Grade, due to the type of materials used and workmanship. Consequently, better quality of construction or construction of cheaper quality can be comparatively observed.

To cover the entire range of dwelling construction, three additional classes of dwellings above the three base grade dwellings must be considered along with one grade dwelling below the base three grades.

The three base grades above are:

"A"	Excellent Quality	155%
"AA"	Superior Quality	250%
"AAA"	Ultimate Quality	300%

The A, AA and AAA Grade dwelling incorporates the best quality of materials and workmanship. Construction costs of AAA Grade dwellings usually run 300% and higher than the cost of C Grade dwellings. The prestige type and the mansion, or country estate-type homes are usually in this class. The AA Grade dwellings having exceptional architectural style and design are generally the custom built homes and are 250% better in overall construction than the C Grade dwellings. The A Grade dwellings having outstanding architectural style and design are generally the custom built homes and are 55% better in overall construction than the C Grade dwellings.

The dwelling of the cheapest quality construction built of low-grade materials and is the E Grade quality.

These seven (7) established base graded or classes of quality will cover the entire range of dwelling construction, from the cheapest to the finest in quality.

USE OF GRADE FACTORS

The grading method is based on C Grade as standards of quality and design. A factor highest grade level to the lowest grade level is established by means of grade factor multipliers. Since not all dwellings are constructed to fall into one of the precise grade levels with no adjustments, it becomes necessary to further refine our grading system. It is not unusual for conventional houses to be built that incorporate qualities that fall above or below these established grades. If the house that is being appraised does not fall exactly on a specific grade, but should be classified within that grade, the use of Grade Factor Symbols (+ or -) will accomplish this adjustment in the Grade AA, A, B, C, D and E Classes.

For a grading increase in the AA Grade category, a plus factor can be used, which will result in each factor being higher than the last.

A Sample Would Be - A dwelling with outstanding architectural style and design, constructed with the finest quality materials and workmanship throughout. Superior quality interior, finish with extensive built-in features. Deluxe heating system and high-

grade lighting and plumbing fixtures may be graded A+. The A+ Grade places this house in the Superior Quality range. The + part of the A+ Grade places this house one level above the A Grade category. Grade A+ has a multiplier of 165%. Thus, once you have priced this house to the base level of C, a multiplier of 165% would be applied to adjust the C Grade base level up to the A+ Grade level you desired.

The same approach would apply should you have a house constructed with a very cheap grade of materials, usually culls and seconds, and very poor quality workmanship resulting from unskilled, inexperienced, do-it-yourself type labor. Minimal code, low-grade mechanical features and fixtures may be graded E. The E Grade places this house in the Cheap Quality range. Grade E has a multiplier of 55%. Thus once you have priced this house to the base level of "E", a multiplier of 55% would be applied to adjust the C Grade base level down to the E Grade level you desired.

NOTE: The quality factor ultimately selected is to represent a composite judgment of the overall Quality Grade. Generally, the quality of materials and workmanship is fairly consistent throughout the construction of a specific building; however, since this is not always the case, it is frequently necessary to weigh the quality of each major component in order to arrive at the proper overall Quality Grade. Equal consideration must also be given to any additions which are constructed of materials and workmanship inconsistent with the quality of the main building.

The appraiser must use extreme caution not to confuse Quality and Condition when establishing grades for older houses in which a deteriorated condition may have a noticeable effect on their appearance. Grades should be established on original built-in quality as new dwellings, and not be influenced by physical condition. Proper grading must reflect replacement cost of new buildings. Bear in mind a house will always retain its initial grade of construction, regardless of its present deteriorated condition.

AAA Quality Dwellings

These dwellings are constructed of the finest quality materials and workmanship, exhibiting unique and elaborate architecturally styling and treatment, and having all the features typically characteristic of mansion-type homes.

BASE SPECIFICATIONS

FOUNDATION: Brick or reinforced concrete foundation walls on concrete footings with interior piers.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, or frame siding. All exterior walls will be of high quality and constructed with much detail and workmanship. Ample insulation and numerous openings for windows and doors are typical.

ROOF: Slate, tile, cedar shake, or architectural asphalt shingles on quality sheathing with well braced rafters having various slopes and ridges.

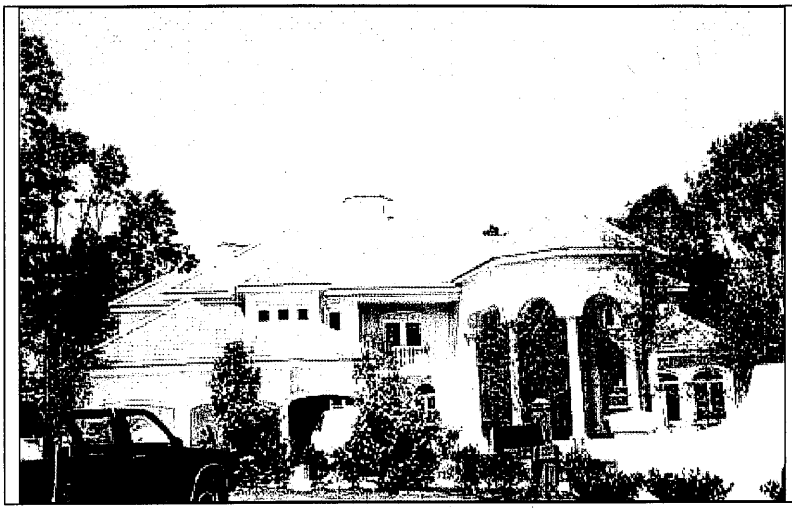
INTERIOR FINISH: The interior of these homes is of the highest custom design and construction with much attention given to fine detail and master craftsmanship.

FLOORS: Heavy construction utilizing wood or steel joists and sub floor with the best quality combination of hardwoods, ceramic tile, terrazzo, marble or granite tile, vinyl, or luxurious carpeting.

PLUMBING: A combination of high quality fixtures, good quality materials, and skilled workmanship. Considered typically and adequate for the type of construction, generally exceeding a total of twelve fixtures.

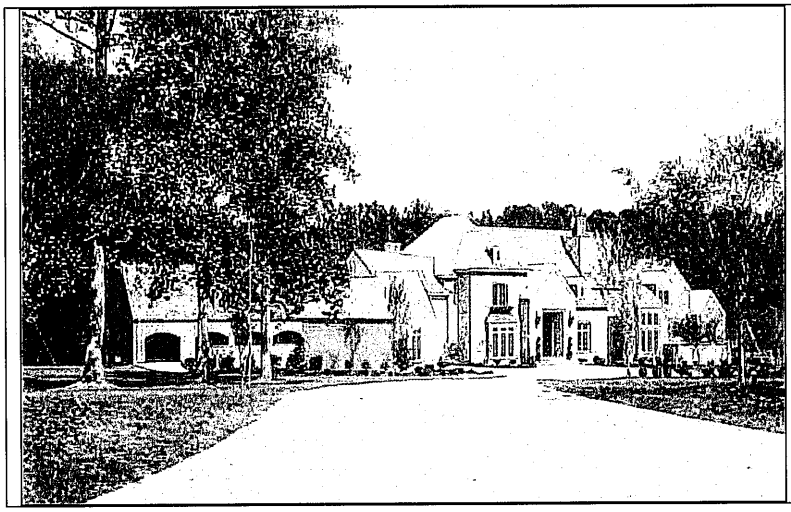
CLIMATE CONTROL: A heating system equal to forced air with ample capacity and insulated ductwork throughout. Air conditioning is included as a part of the specifications; however, this item is considered an add-on item and is excluded from base pricing.

ELECTICAL: Good quality wiring, maximum electrical outlets and expensive light fixtures.



Grade AAA

Grade AAA



Grade AAA

AA Quality Dwellings

These homes are architecturally designed and custom built by contractors who specialize in good quality construction. Extensive detail is given to ornamentation with the use of good grade materials and skilled craftsmanship. Homes of this quality are located in affluent areas that will enhance and benefit the home the most.

BASE SPECIFICATIONS

FOUNDATION: Brick or reinforced concrete foundation walls on concrete footings with interior piers.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, or frame siding. All exterior walls will be of high quality and constructed with much detail and workmanship. Ample insulation and numerous openings for windows and doors are typical.

ROOF: Slate, tile, cedar shake, or architectural asphalt shingles on quality sheathing with well braced rafters having various slopes and ridges.

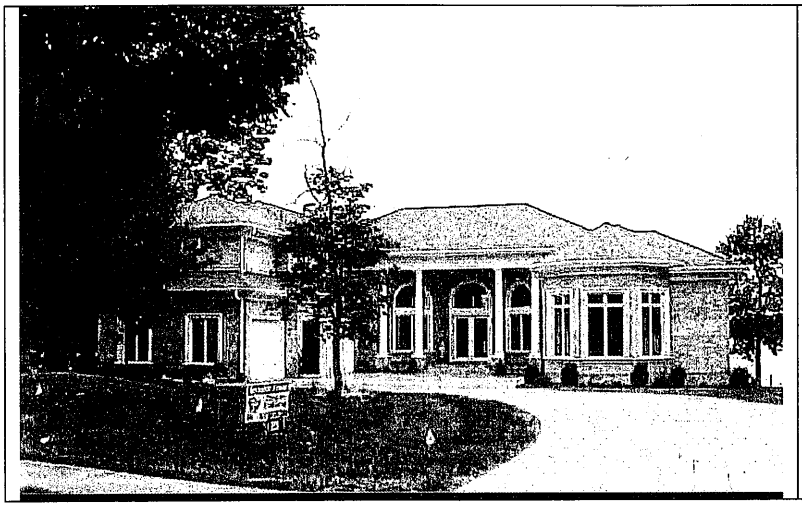
INTERIOR FINISH: The interior of these homes is of the highest custom design and construction with much attention given to fine detail and master craftsmanship.

FLOORS: Heavy construction utilizing wood or steel joists and sub floor with the best quality combination of hardwoods, ceramic tile, terrazzo, marble or granite tile, vinyl, or luxurious carpeting.

PLUMBING: A combination of high quality fixtures, good quality materials, and skilled workmanship. Considered typically and adequate for the type of construction, generally exceeding a total of twelve fixtures.

CLIMATE CONTROL: A heating system equal to forced air with ample capacity and insulated ductwork throughout. Air conditioning is included as a part of the specifications; however, this item is considered an add-on item and is excluded from base pricing.

ELECTICAL: Good quality wiring, maximum electrical outlets and expensive light fixtures.



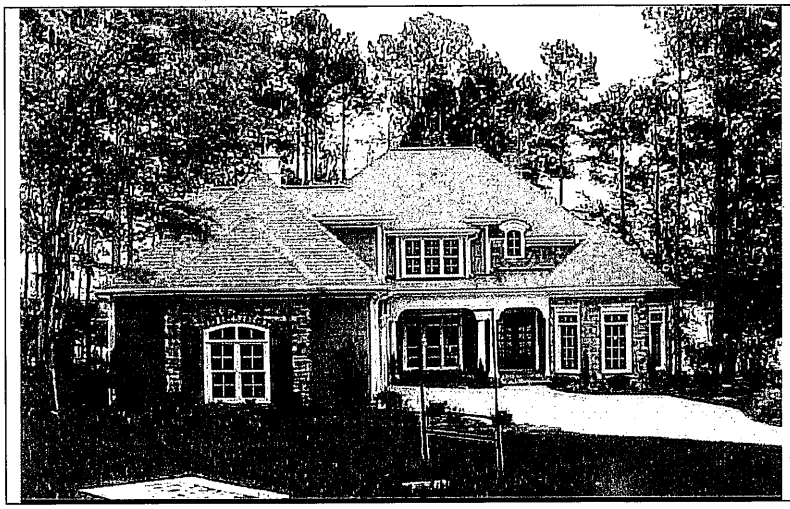
Grade AA+

Grade AA+

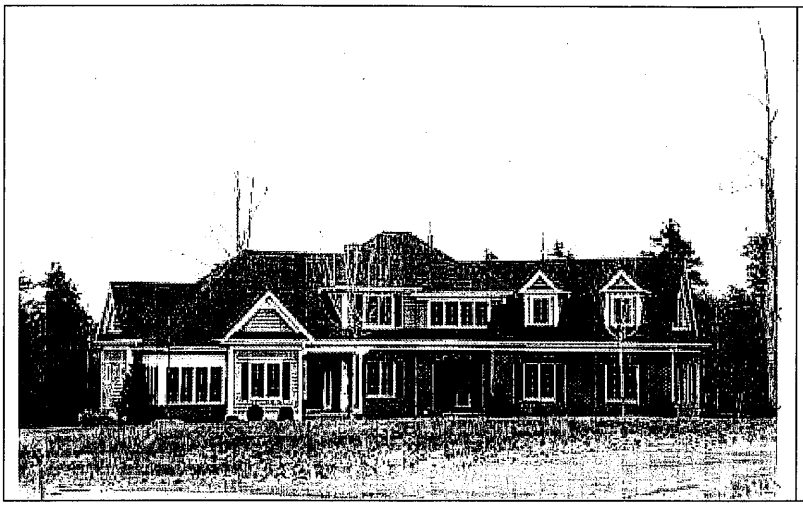
Grade AA+

Grade AA+-

Grade AA+-

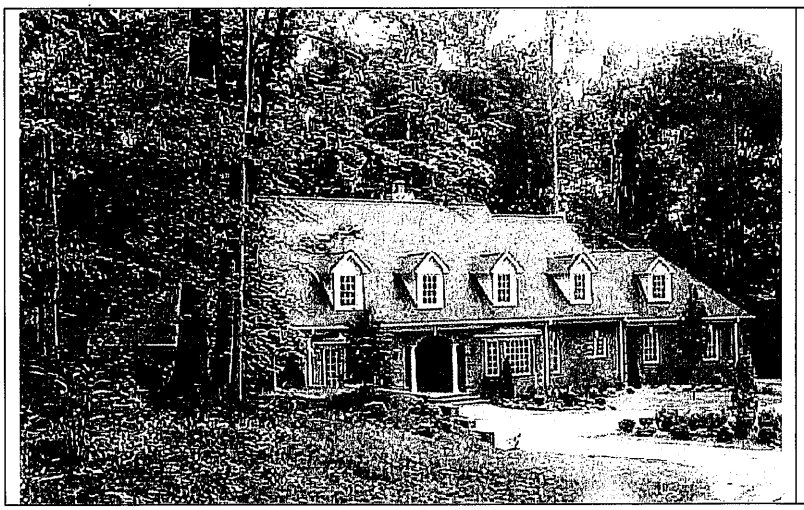


Grade AA+-



Grade AA-

Grade AA-



Grade AA-

A Quality Dwellings

These homes are architecturally designed and custom built by contractors who specialize in good quality construction. Extensive detail is given to ornamentation with the use of good grade materials and skilled craftsmanship. Homes of this type are located in areas that are specifically developed for this level of quality.

BASE SPECIFICATIONS

FOUNDATION: Brick or reinforced concrete foundation walls on concrete footings with interior piers.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, or frame siding. All exterior walls will be of good quality and constructed with detail and workmanship. Ample insulation and adequate openings for windows and doors is typical.

ROOF: Slate, tile, cedar shake, or architecture asphalt shingles on quality sheathing with well braced rafters having various slopes and ridges.

INTERIOR FINISH: The interior of these homes is of good design and good construction with much attention given to detail and good quality craftsmanship.

FLOORS: Heavy construction utilizing wood or steel joists and sub floor with a good quality combination of hardwoods, ceramic tile, marble or granite tile, vinyl, or good quality carpeting.

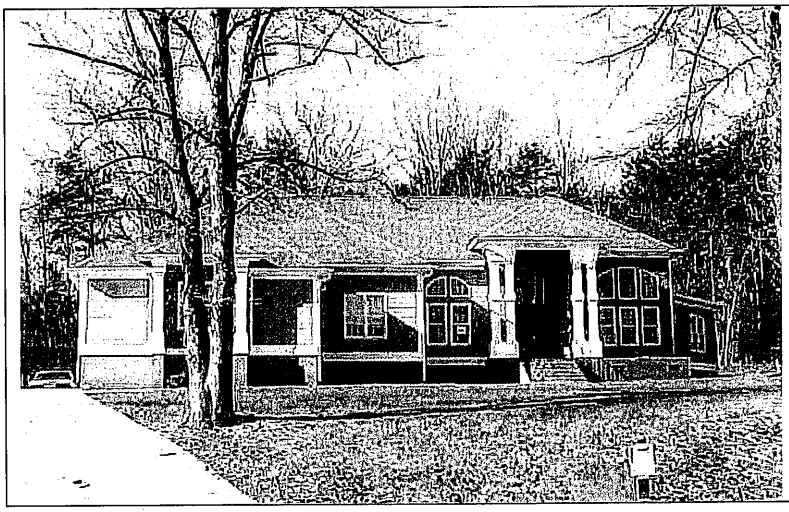
PLUMBING: A combination of good quality fixtures, good quality materials, and skilled workmanship. Considered typically and adequate for the type of construction, generally exceeding a total of twelve fixtures.

CLIMATE CONTROL: A heating system equal to forced air with ample capacity and insulated ductwork throughout. Air conditioning is included as a part of the specifications; however, this item is considered an add-on item and is excluded from base pricing.

ELECTICAL: Good quality wiring, maximum electrical outlets and expensive light fixtures.

Grade A+

Grade A+



Grade A+

Grade A+-

Grade A+-

Grade A+-

Grade A-

Grade A-

Grade A-

B Quality Dwellings

These homes are architecturally designed and built by contractors who specialize in good quality construction. Much detail is given to ornamentation with the use of good grade materials and skilled workmanship. Custom built homes normally fall into this classification.

BASE SPECIFICATIONS

FOUNDATION: Brick or reinforced concrete foundation walls on concrete footings with interior piers.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, or frame siding. All exterior walls will be of good quality and constructed with detail and workmanship. Ample insulation and adequate openings for windows and doors is typical.

ROOF: Slate, tile, cedar shake, or architecture asphalt shingles on quality sheathing with well braced rafters having various slopes and ridges.

INTERIOR FINISH: The interior of these homes is of good design and good construction and good quality workmanship.

FLOORS: Moderate construction utilizing wood or steel joists and sub floor with a good combination of hardwoods, ceramic tile, vinyl, or good quality carpeting.

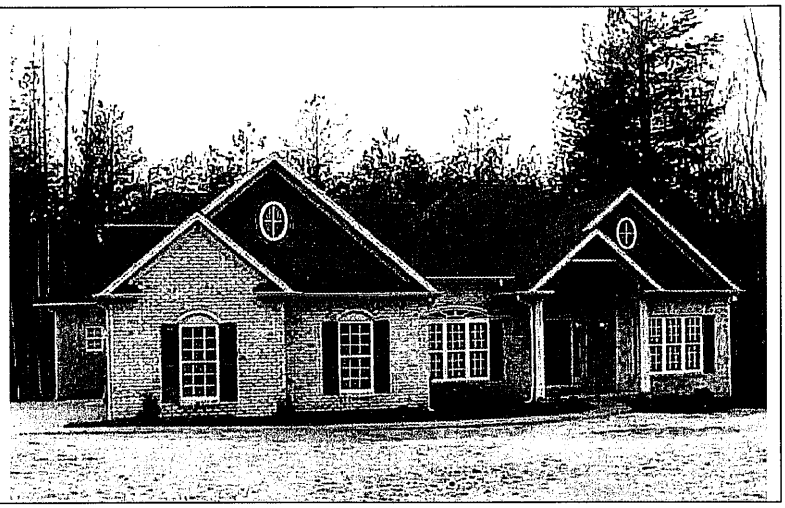
PLUMBING: A combination of quality fixtures, quality materials, and skilled workmanship. Considered typically and adequate for this type of construction, generally having at least eight fixtures.

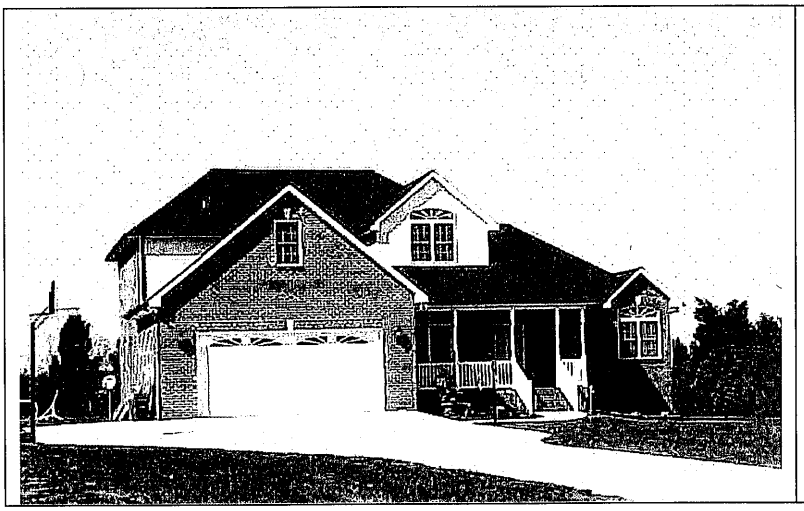
CLIMATE CONTROL: A heating system equal to forced air with ample capacity and insulated ductwork throughout. Air conditioning is included as a part of the specifications; however, this item is considered an add-on item and is excluded from base pricing.

ELECTICAL: Good quality wiring, maximum electrical outlets and good light fixtures.

Grade B+

Grade B+



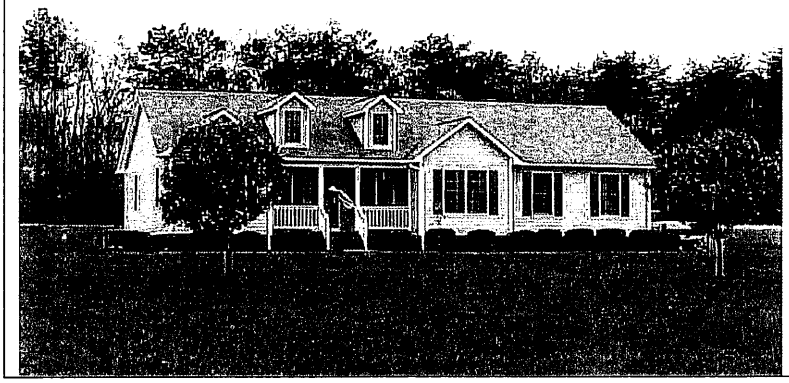


Grade B+

Grade B+-

Grade B+-

Grade B+-



Grade B-

Grade B-

Grade B-

C Quality Dwellings

These homes are designed and built by contractors who specialize in average quality construction. Adequate detail is given to ornamentation with the use of average grade materials and typical workmanship. Homes of this type are located in areas that are specifically developed for this level of quality. These homes represent the prevalent quality.

BASE SPECIFICATIONS

FOUNDATION: Brick or reinforced concrete foundation walls on concrete footings with interior piers.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, or frame siding. All exterior walls will be average quality and constructed with detail and workmanship. Ample insulation and adequate openings for windows and doors is typical.

ROOF: Tile, cedar shake, or asphalt shingles on average quality sheathing with frame trusses and having typical slopes.

INTERIOR FINISH: The interior of these homes is of average design and average construction with attention given to detail and average quality workmanship.

FLOORS: Moderate construction utilizing wood or steel joists and sub floor with an average combination of hardwoods, ceramic tile, vinyl, or average quality carpeting.

PLUMBING: A combination of average quality fixtures, average quality materials, and workmanship. Considered typically and adequate for the type of construction, generally not exceeding a total of twelve fixtures.

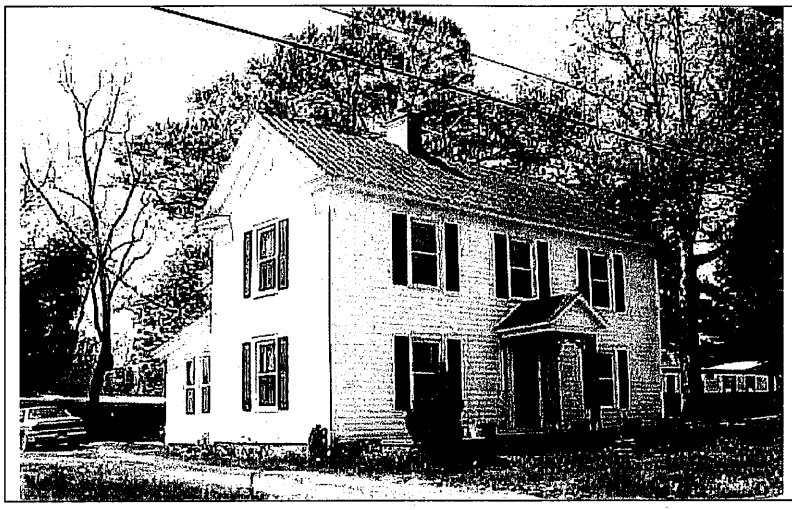
CLIMATE CONTROL: A heating system equal to forced air with ample capacity and insulated ductwork throughout. Air conditioning is included as a part of the specifications; however, this item is considered an add-on item and is excluded

ELECTICAL: Average quality wiring, adequate electrical outlets and average light fixtures from base pricing.

Grade C+

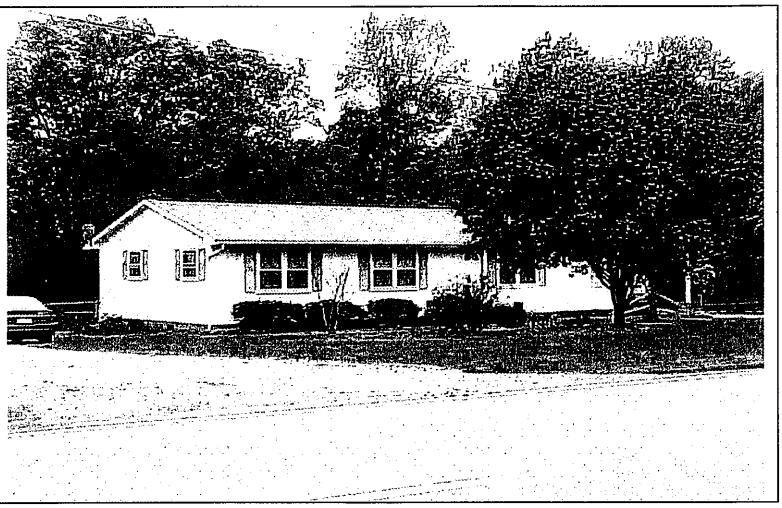
Grade C+

Grade C+

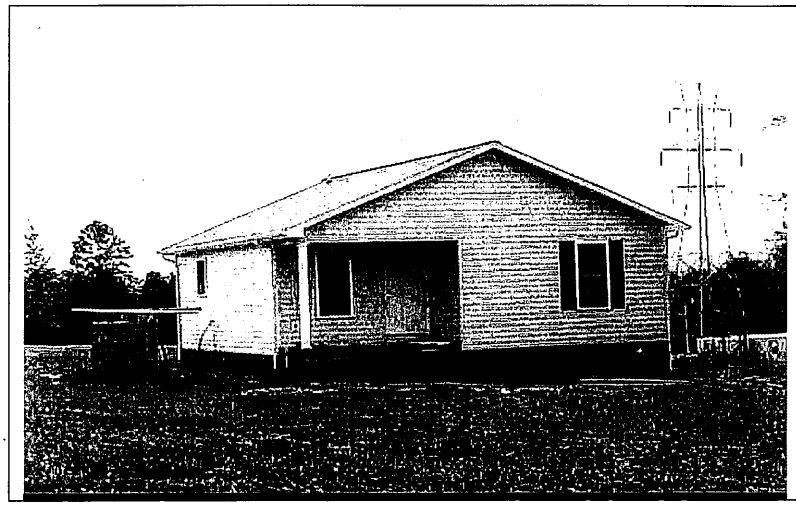


Grade C+-

Grade C+-

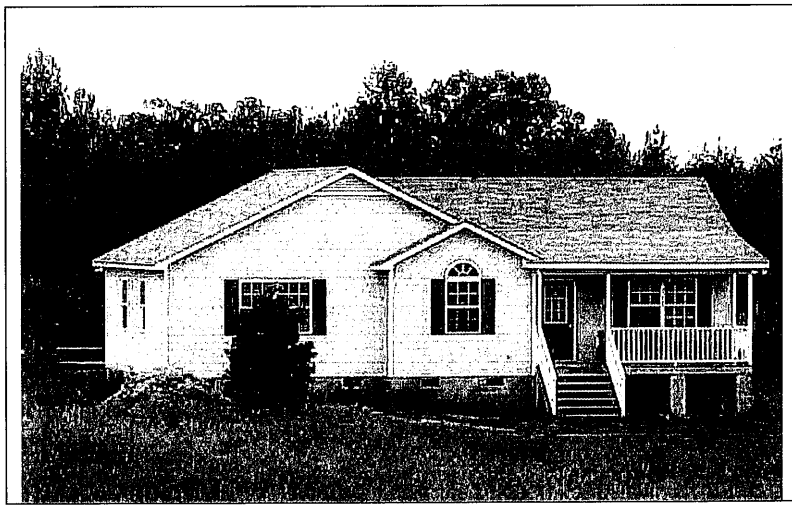


Grade C+-



Grade C-

Grade C-



Grade C-

D Quality Dwellings

These homes are usually built of fair quality materials with expense-saving construction. Economy built homes would normally fall into this classification.

BASE SPECIFICATIONS

FOUNDATION: Brick or concrete block walls on concrete footings.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, or frame siding. All exterior walls are average quality or less and constructed with minimal detail and workmanship. Insulation is minimal and openings for windows and doors are typical.

ROOF: Light weight asphalt shingles on adequate sheathing and frame trusses with minimal slope.

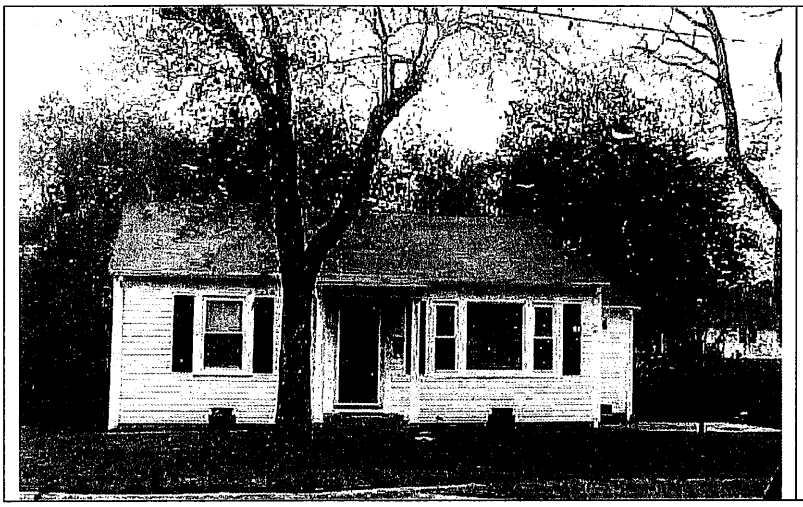
INTERIOR FINISH: The interior of these homes is below average design and construction with limited attention given to detail and quality workmanship.

FLOORS: Low cost construction utilizing wood or steel joists and sub floor with some hardwoods, vinyl, and/or low quality carpeting.

PLUMBING: A combination of fair quality fixtures and typical quality materials and workmanship. Considered typical and adequate for this type of construction, normally has eight fixtures or less.

CLIMATE CONTROL: A heating system equal to forced air with minimal capacity and ductwork throughout. Air conditioning is not a part of the specifications. This item is excluded from base pricing and should be added if applicable.

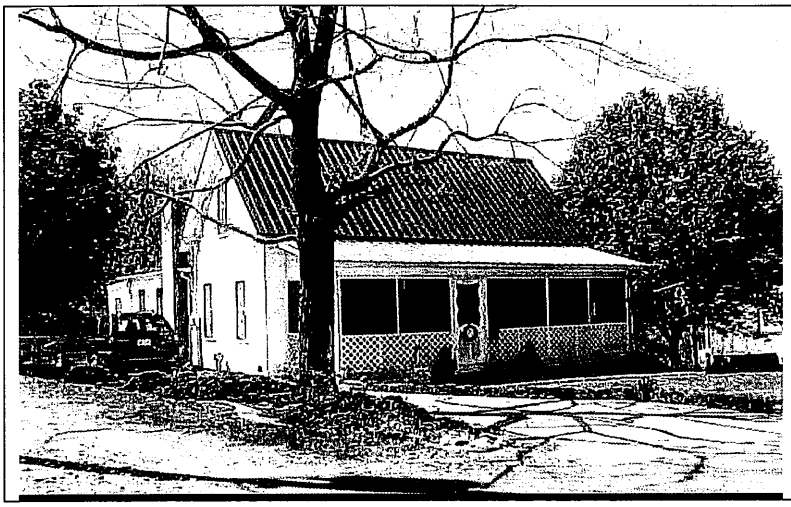
ELECTICAL: Adequate quality wiring, minimal electrical outlets and low cost light fixtures.



Grade D+

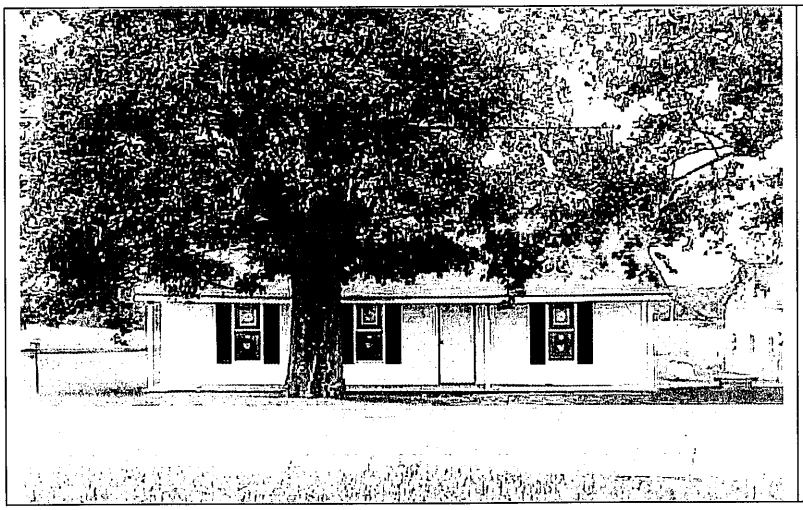
Grade D+

Grade D+



Grade D+-

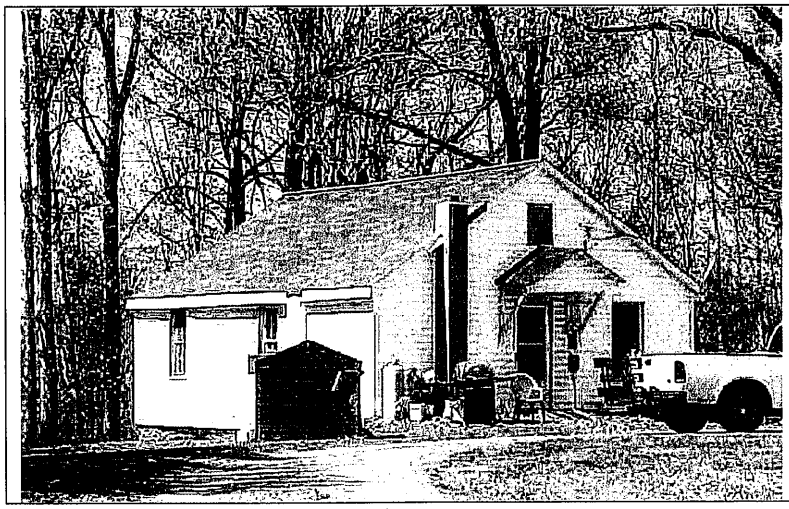
Grade D+-



Grade D+-

Grade D-

Grade D-



Grade D-

E Quality Dwellings

These homes are constructed of low quality materials and usually designed not to exceed minimal building code. Little detail is given to interior or exterior finish. They are usually built for functional use only. Homes of this type are not specifically located within developments, but may be built as in-fill housing.

BASE SPECIFICATIONS

FOUNDATION: Brick or concrete block foundation walls on concrete footings, piers, or concrete slab.

EXTERIOR WALLS: Stone, brick veneer, stucco, log, frame siding, or concrete block. All walls are cheaply constructed with minimal detail and workmanship. Little or no insulation and minimal windows and doors are typical.

ROOF: Light weight asphalt shingles, roll roofing, or metal on plywood sheathing and frame trusses with minimal slope.

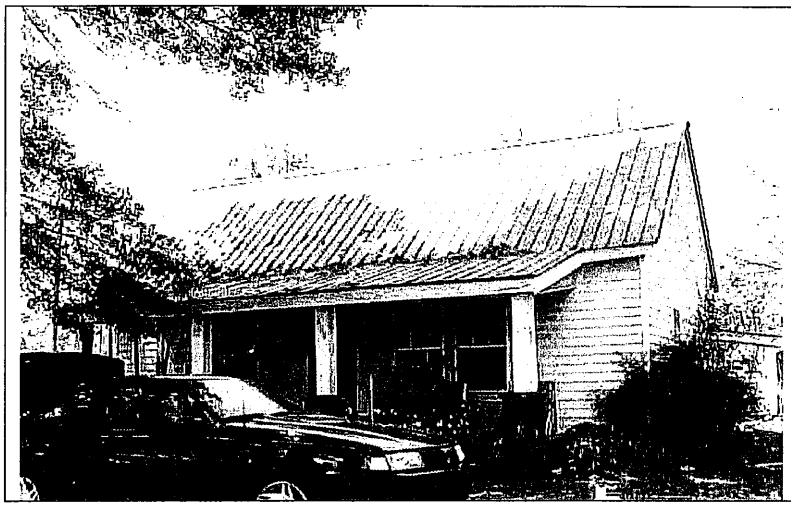
INTERIOR FINISH: The interior of these homes is of fair design and construction with low cost materials. Little attention is given to detail and quality workmanship.

FLOORS: Low cost construction utilizing wood or steel joists and sub floor with some hardwoods, vinyl, and/or low quality carpeting.

PLUMBING: A combination of fair quality fixtures, typical quality materials, and workmanship. Considered adequate for the type of construction. Generally not more than a total of five fixtures.

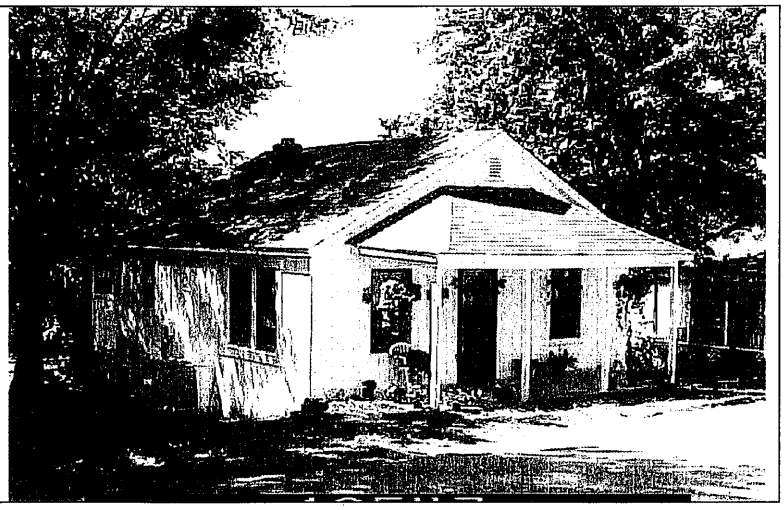
CLIMATE CONTROL: A heating system equal to forced air with minimal capacity and ductwork throughout. Air conditioning is not a part of the specifications. This item is excluded from base pricing and should be added if applicable.

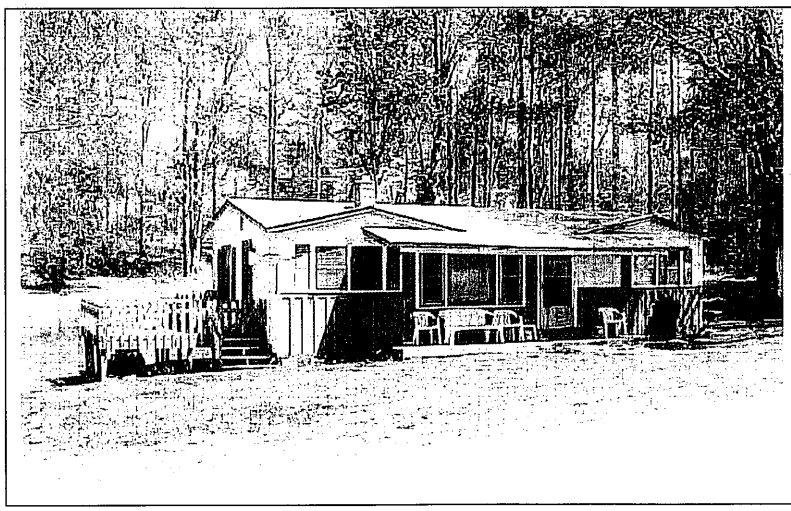
ELECTICAL: Minimal quality wiring, limited electrical outlets and inexpensive lighting.



Grade E+

Grade E+





Grade E+

Grade E+-

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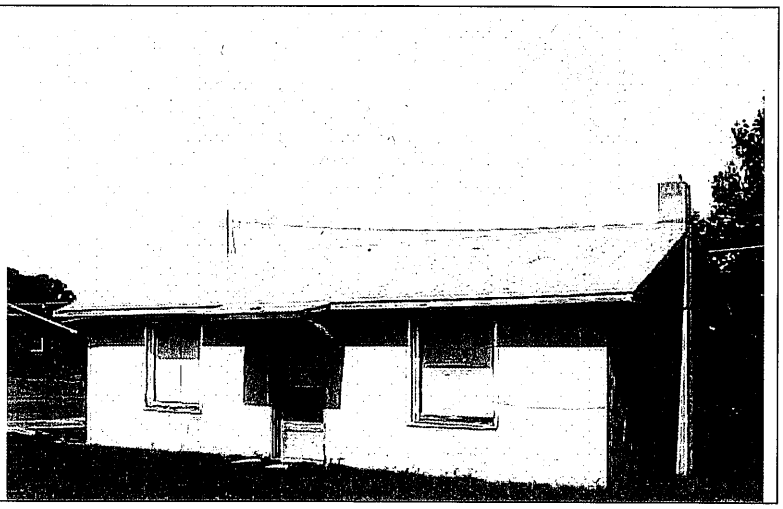
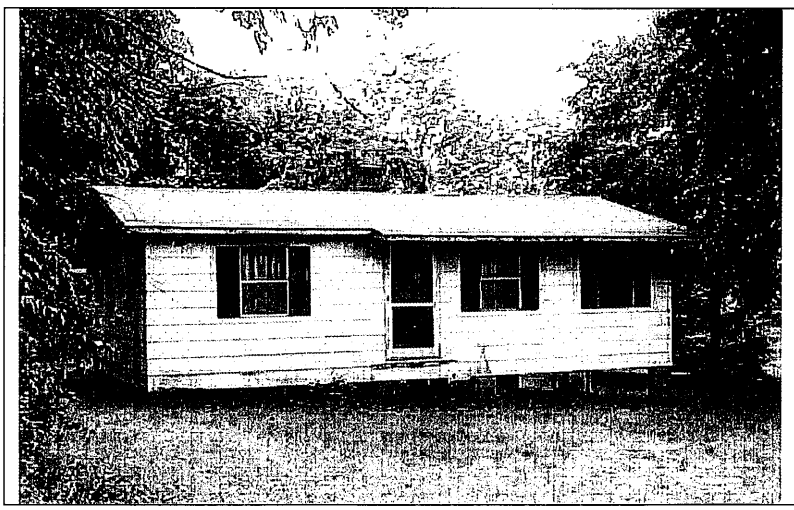
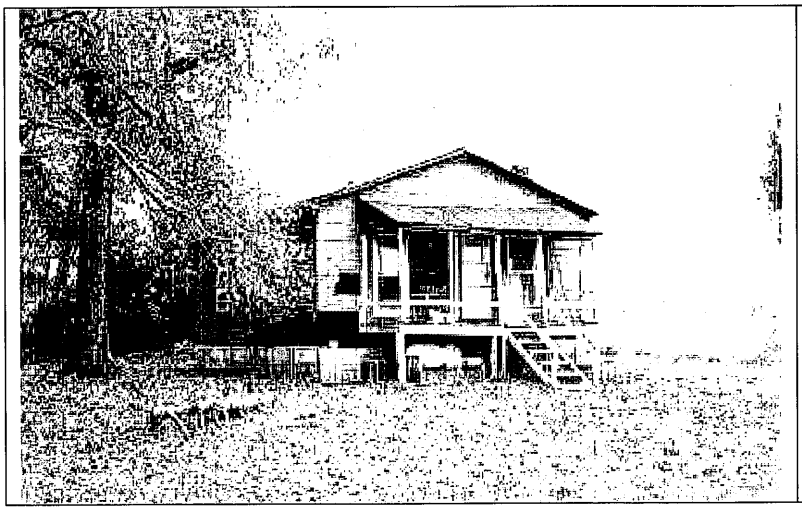




Grade E+-

Grade E-

Grade E-



Grade E-

MANUFACTURED HOUSING

General

Manufactured housing can be single wide mobile homes, double wide mobile homes, multi-sectional homes, or modular homes. Non-modular structures are designed with a steel undercarriage and wheel assemblies for transporting to the site: Note most modular homes have wood joist rather than a steel undercarriage. For mass appraisal purposes, both wood joist and steel undercarriage homes that are classified as modular are considered to be like stick-built homes.

As of June 15, 1976, all manufactured homes built, after that time, must meet or exceed Federal Standards outlined in Title VI, Housing and Community Development Act of 1974. These standards (building codes) are administered by United States Department of Housing and Urban Development (HUD). The HUD code, unlike conventional building codes, requires manufactured homes to be constructed on permanent chassis. Manufactured homes that are not consider modular homes must have a red/silver certification (HUD certification) on the exterior of each transportable section when transported from the factory.

Modular homes are constructed on the same state, local and regional building codes (conventional building codes) as site built homes which exceed the HUD code and have a "State of North Carolina Modular Construction Validating Stamp" on the interior of the home. For mass appraisal purposes all factory constructed homes are to be classified as either manufactured (single-wide, double-wide, etc.) or modular.

MODULAR HOME CLASSIFICATION STANDRADS

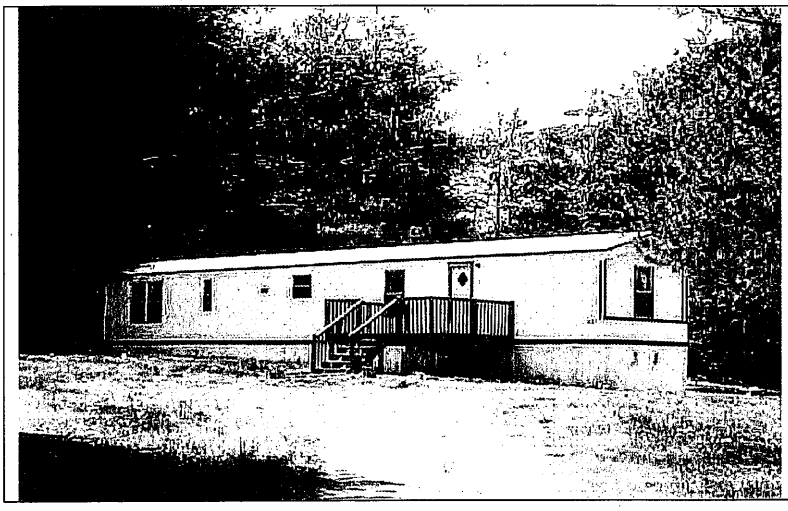
All homes constructed in a factory may be considered a manufactured home but only those that meet or exceed the North Carolina State Residential Building Code may be considered modular homes. North General Statute 105-164.3(21b) defines modular home as "a factory-built structure that is designed to be used as a dwelling, is manufactured in accordance with the specifications for modular homes under the North Carolina State Residential Building Code (NCSRBC), and bears a seal or label issued by the Department of Insurance pursuant to G.S. 143-139.1". Also, in addition to NCSRBC modular homes may be required to be constructed to local and/or regional building codes. North Carolina addresses the construction and definition of modular homes under the North Carolina State Building Code Volume VIII – Modular Construction Regulations. The quality of modular homes is consider to be the same as site built homes per memorandum from the North Carolina Department of Insurance (see memorandum). For mass appraisal proposes structures that are considered modular must meet current general statute requirements.

MANUFACTURED HOME CLASSIFICATION STANDARDS

All manufactured homes not meeting the requirements of a modular home are to be considered using the term "manufactured home" for mass appraisal proposes. N.C.G.S. 105-273(13) in defining real property provides for the inclusion of manufactured homes. Also, N.C.G.S. 105-316.7 defines mobile home and manufactured home.

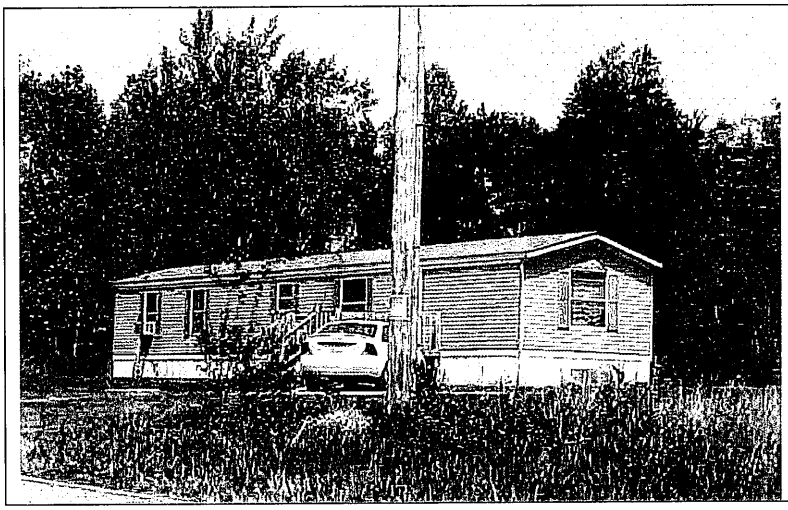
Any manufactured home will be considered *real property* and will be valued in accordance with the schedule of values if the owner of the land and the owner of the home placed upon the land are the same, having the towing hitch and axle assembly removed and placed upon a permanent foundation as required by the Chatham County Building Department.

If the owner of the manufactured home does not own the land it occupies, the home will be considered a *personal property* item. If the manufactured home is considered a *personal* item, it will be noted within the miscellaneous items section of the property record card. Note: All homes classified as modular will be considered as real property even if on someone else's land.



MA 30S
Single-Sect
Manufactured
Home

MA 30W
Multi-Sect
Manufactured
Home



MA 30S
Single-Sect
Manufactured
Home

RESIDENTIAL COST SCHEDULES

The Cost Approach to value lends itself best to property valuation for tax purposes for two principle reasons.

1) Appraisals for Ad Valorem purposes require separate land value estimates.

2) The Cost Approach can be applied to all classes of property.

The use of one approach to the exclusion of others is contrary to the appraisal process. The approach outlined in this manual includes cost schedules which have been developed and are supported through analysis and incorporation of economic factors indicated by all three approaches to value; Cost, Income and Market.

The following cost schedules are based on a model residence constructed using typical components, average quality workmanship and materials, consisting of one thousand (1000) square feet, two full baths, central heating system and crawl space.

The general pricing procedure example is as follows:

1. Determine the Main Area (**MA**) Code by exterior wall type and type of residential building. (Ex. Brick ranch style home is a MA 37M)
2. Multiply the base square footage of the first floor by the main area price and by the size factor for the MA code. (Ex. 1500 sq. ft. X $88.70 X .84 = $111,762)
3. For buildings with an upper floor, multiply the square footage of the upper floor by the main area price then by the size factor for the MA code of the first floor square footage and by the multiple story adjustment (**ST**) of 65%. (Ex. 1000 sq. ft. X $88.70 X .84 X .65 = $48,430)
4. Apply Cost & Design % factor to the total main area price.
5. Adjustments to the main area are calculated from the norm of the base structure.
    A) Heat type- the standard is central heat. Determine the heat type (Ex. heat pump AR 08) and multiply the square footage by the heat type code rate code by the size adjustment for the main area of the first floor square footage. (Ex. 1500 sq. ft. X $3.00 X .84 = $3,780)
    B) Foundation type- the standard is crawl space. Determine the foundation type (Ex. Continuous Slab FN 03) and multiply the square footage by the foundation type code by the size adjustment for the main area of the first floor square footage. (Ex. 1500 sq. ft. X (-)$3.90 X .84 = (-) $4,914)
    C) Plumbing type- the standard is 2 baths. Determine the number of fixtures from the standard. (Ex. 2½ baths has two extra fixtures PL RS) Multiply the number of fixtures times the rate. (Ex. 2 X $1,080 = $2,160)

D) Fireplace type- the standard is no fireplace. Determine the type of fireplace. (Ex. Prefab FP 03) Multiply the fireplace rate times the number of fireplaces. (Ex. 1 X $1,800 = $1,800)

E) Basement Type- the standard is no basement. Determine the type of basement. (Ex. Basement is finished with a walk out area with windows and door BA FW) Multiply the square footage by the basement type code by the size adjustment for the main area of the first floor square footage (Ex. 1500 sq. ft. X $39.15 X .84 = $49,316)

F) Elevator type- the standard is no elevator. Determine the type of elevator and number of floors. (Ex. 2 story Hydraulic RE EH2) Multiply the elevator rate times the number of elevators. (Ex. 1 X $10,000 = $10,000)

6. Determine the addition code type (Ex. Porch AC 06) attached to the main structure. Multiply the base rate of the AC code by the size adjustment for that code. (Ex. 80 sq. ft. X $25.60 X 1.02 = $2,088)
7. Sub-total all areas of the structure's components.
8. Apply the proper Quality Grade Factor to arrive at the Replacement Cost New. The standard pricing schedule is at a C grade building.
9. Apply the proper depreciation from the C.D.U. Chart. (Ex. A home built in 1975 that physically is in average condition with normal functional use, but is in a desirable neighborhood and the C.D.U. is Good the depreciation is 70% of the value remaining)
10. If a market adjustment is to be applied it is applied at this stage.
11. The final value for the building is finished.

All adjustments from base specifications are included in the following schedules.

Should any discrepancy arise from the printed Manual and the Chatham County Tax software calculations, the software calculations shall control.

BASE PRICE FOR RESIDENTIAL SCHEDULE MA 37 SINGLE FAMILY RESIDENCE

WALL HEIGHT	BASE PRICE	BASE SPECIFICATIONS
10	$90.00-$100.00	STORY HEIGHT: FIRST FLOOR AREA
		FOUNDATION/BASEMENT: CONTINUOUS FOOTING
		EXTERIOR WALLS: VINYL SIDING OR EQUAL
		PARTITIONS: ADEQUATE FOR SEPARATION OF ROOMS/STORAGE AREAS
		FRAMING: WOOD JOIST
REMARKS/ADDITIONAL FEATURES:		FLOOR COVER/FINISH: HARDWOOD/VINYL/CARPET
ADD FOR FIREPLACES GARAGES/PORCHES/BASEMENT AREAS ADDITIONAL PLUMBING ADD FOR COOLING SYSTEM		INTERIOR FINISH: DRYWALL/PANEL
		HEATING/COOLING: FORCED HOT AIR OR EQUAL
		PLUMBING: 8 PLUMBING FIXTURES

BASE PRICE FOR RESIDENTIAL SCHEDULE MA 18 DUPLEX/TRIPLEX

WALL HEIGHT	BASE PRICE	BASE SPECIFICATIONS
10	$80.00-$95.00	STORY HEIGHT: FIRST FLOOR AREA
		FOUNDATION/BASEMENT: CONTINUOUS FOOTING
		EXTERIOR WALLS: VINYL SIDING OR EQUAL
		PARTITIONS: ADEQUATE FOR SEPARATION OF ROOMS/STORAGE AREAS
		FRAMING: WOOD JOIST
REMARKS/ADDITIONAL FEATURES: ADD FOR ATTACHMENTS ADD FOR EXTRA PLUMBING ADD FOR COOLING SYSTEM ADD FOR ADDITIONAL KITCHEN		FLOOR COVER/FINISH: HARDWOOD/VINYL/CARPET
		INTERIOR FINISH: DRYWALL/PANEL
		HEATING/COOLING: FORCED HOT AIR
		PLUMBING: 8 PLUMBING FIXTURES

BASE PRICE FOR RESIDENTIAL SCHEDULE MA 12 CONDO/TOWNHOUSE

WALL HEIGHT	BASE PRICE	BASE SPECIFICATIONS
10	$90.00-$100.00	STORY HEIGHT: FIRST FLOOR AREA
		FOUNDATION/BASEMENT: CONTINUOUS FOOTING
		EXTERIOR WALLS: HARDWOOD/VINYL SIDING OR EQUAL
		PARTITIONS: ADEQUATE FOR SEPARATION OF ROOMS/STORAGE AREAS
		FRAMING: WOOD JOIST
REMARKS/ADDITIONAL FEATURES: ADD FOR ATTACHMENTS ADD FOR EXTRA PLUMBING ADD FOR COOLING SYSTEM		FLOOR COVER/FINISH: VINYL/CARPET
		INTERIOR FINISH: DRYWALL/PANEL
		HEATING/COOLING: FORCED HOT AIR
		PLUMBING: 8 PLUMBING FIXTURES

BASE PRICE FOR RESIDENTIAL SCHEDULE MA 37WMD MODULAR HOME

WALL HEIGHT	BASE PRICE	BASE SPECIFICATIONS
10	$75.00-$95.00	STORY HEIGHT: FIRST FLOOR AREA
		FOUNDATION/BASEMENT: CONTINUOUS FOOTING
		EXTERIOR WALLS: VINYL SIDING OR EQUAL
		PARTITIONS: ADEQUATE FOR SEPARATION OF ROOMS/STORAGE AREAS
		FRAMING: WOOD JOIST
REMARKS/ADDITIONAL FEATURES:		FLOOR COVER/FINISH: VINYL/CARPET/PREFAB
ADD FOR ATTACHMENTS ADD FOR EXTRA PLUMBING ADD FOR COOLING SYSTEM		INTERIOR FINISH: DRYWALL/PANEL
		HEATING/COOLING: FORCED HOT AIR
		PLUMBING: 8 PLUMBING FIXTURES

BASE PRICE FOR RESIDENTIAL SCHEDULE MA 30W MANUFACTURED HOME (MULTI SECTION)

WALL HEIGHT	BASE PRICE	BASE SPECIFICATIONS
10	$55.00-$62.00	STORY HEIGHT: FIRST FLOOR AREA
		FOUNDATION/BASEMENT: CONTINUOUS FOOTING
		EXTERIOR WALLS: VINYL SIDING OR EQUAL
		PARTITIONS: ADEQUATE FOR SEPARATION OF ROOMS/STORAGE AREAS
		FRAMING: WOOD JOIST
REMARKS/ADDITIONAL FEATURES: ADD FOR ATTACHMENTS ADD FOR EXTRA PLUMBING ADD FOR COOLING SYSTEM		FLOOR COVER/FINISH: VINYL/CARPET
		INTERIOR FINISH: DRYWALL/PANEL
		HEATING/COOLING: FORCED HOT AIR
		PLUMBING: 8 PLUMBING FIXTURES

BASE PRICE FOR RESIDENTIAL SCHEDULE MA 30S MANUFACTURED HOME (SINGLE SECTION)

WALL HEIGHT	BASE PRICE	BASE SPECIFICATIONS
10	$27.00-$35.00	STORY HEIGHT: FIRST FLOOR AREA
		FOUNDATION/BASEMENT: CONTINUOUS FOOTING
		EXTERIOR WALLS: VINYL SIDING/METAL OR EQUAL
		PARTITIONS: ADEQUATE FOR SEPARATION OF ROOMS/STORAGE AREAS
		FRAMING: WOOD JOIST
REMARKS/ADDITIONAL FEATURES: ADD FOR ATTACHMENTS ADD FOR EXTRA PLUMBING ADD FOR COOLING SYSTEM		FLOOR COVER/FINISH: VINYL/CARPET
		INTERIOR FINISH: DRYWALL/PANEL
		HEATING/COOLING: FORCED HOT AIR
		PLUMBING: 8 PLUMBING FIXTURES

MAIN AREA BASE RATES

Frame Or Equal	**$90.00-$100.00**	**Brick Or Equal**	**$90.00-$100.00**
Mas./Frame Or Equal	**$84.00-$92.00**	**Modular Home**	**$75.00-$95.00**
Manufact. Home	**$55.00-$62.00**	**Manufact. Home Single Sect.**	**$27.00-$35.00**

Base Rate Includes Central Heat, Two Baths, Crawl Foundation

AR Code	HEAT A/C	SQ. FT. ADJ.
01	No Heat	(-) $3.25-$4.35
02	Flr/Wall Furnace	(-) $1.50-$2.00
03	Radiant/Elec/BB	Base
04	Radiant/Water	Base
05	Forced Hot Air	Base
06	Unit Heat	(-) $1.50-$2.00
07	Pack. Heat/Cool	(+) $2.55-$3.45
08	Heat Pump	(+) $2.55-$3.45
09	Cooling W/Ducts	(+) $2.55-$3.45
10	M.H. Cooling	(+) $1.70-$3.45

RE CODE	Elevator	RATE
EC2	Cable 2story	$8,500-$11,500
EC3	Cable 3story	$12,500-$16,500
EH2	Hydraulic 2story	$8,500-$11,500
EH3	Hydraulic 3story	$12,500-$16,500
EH4	Hydraulic 4story	$15,500-$21,500
EPC2	Poly Chain 2story	$8,500-$11,500
EPC3	Poly Chain 3story	$9,000-$12,500

PL CODE	Plumbing	RATE
RS	Per Fixture	$ 900-$ 1,250
MH	Per Fixture	$ 500-$ 1,250

SK CODE	Extra Kitchen/Bar	RATE
RK	**Kitchen/Bar**	$4,000-$5,500

FN Code	Foundation	SQ. FT. ADJ.
01	Earth	(-) $3.95-$5.35
02	Pier/Post	(-) $3.95-$5.35
03	Continous Slab	(-) $3.30-$4.50
04	Perim. Footing	Base
05	Metal/Vinyl Skirting	(-) $1.75-$2.35

FP CODE	Fireplace	RATE
01	None	Base
02	Wood Stove Flue	$900-$1,300
03	Prefabricated	$1,800-$2,400
04	1 Story Single	$3,600-$5,100
05	1 Story Double	$5,400-$7,500
06	2 Story Single	$4,600-$6,300
07	2 Story Double	$6,000-$8,200
08	2 Story Prefab.	$2,400-$4,600
09	M.H. Fireplace	$1,500-$2,000

BA CODE	Basement Area	SQ. FT. RATE
U	Unfinished	$11.65-$15.75
UW	Unfinished Walkout	$14.30-$19.40
R	Rec. Room	$19.30-$26.10
F	Finished	$26.95-$36.45
FW	Finished Walkout	$33.25-$45.05
BG	Basement Garage	$1,800-$2,500

ST	Story Height Adjustment	65%

MAIN AREA SIZE ADJUSTMENT

AREA	ADJ.
0001-0299	175.00%
0300-0309	166.50%
0310-0319	164.75%
0320-0329	163.00%
0330-0339	161.25%
0340-0349	159.50%
0350-0359	157.75%
0360-0369	156.00%
0370-0379	154.25%
0380-0389	152.50%
0390-0399	150.75%
0400-0409	149.00%
0410-0419	147.75%
0420-0429	146.50%
0430-0439	145.25%
0440-0449	144.00%
0450-0459	142.75%
0460-0469	141.50%
0470-0479	140.25%
0480-0489	139.00%
0490-0499	137.75%
0500-0509	136.50%
0510-0519	135.25%
0520-0529	134.00%
0530-0539	132.75%
0540-0549	131.50%
0550-0559	130.25%
0560-0569	129.00%
0570-0579	127.75%
0580-0589	126.50%
0590-0599	125.25%
0600-0609	124.00%
0610-0619	122.90%
0620-0629	121.90%
0630-0639	120.90%
0640-0649	119.80%
0650-0659	118.80%
0660-0669	117.80%
0670-0679	116.70%
0680-0689	115.70%
0690-0699	114.70%
0700-0719	113.70%
0720-0739	112.66%
0740-0759	111.62%
0760-0779	110.58%

AREA	ADJ.
0780-0799	109.54%
0800-0819	108.50%
0820-0839	107.40%
0840-0859	106.30%
0860-0879	105.20%
0880-0899	104.10%
0900-0924	103.00%
0925-0949	102.25%
0950-0974	101.50%
0975-0999	100.75%
1000-1019	100.00%
1020-1039	99.00%
1040-1059	98.00%
1060-1079	97.00%
1080-1099	96.00%
1100-1124	95.00%
1125-1149	94.00%
1150-1174	93.00%
1175-1199	92.00%
1200-1224	91.00%
1225-1249	90.25%
1250-1274	89.50%
1275-1299	88.75%
1300-1349	88.00%
1350-1399	87.00%
1400-1449	86.00%
1450-1499	85.00%
1500-1574	84.00%
1575-1649	83.50%
1650-1724	83.00%
1725-1799	82.00%
1800-1899	81.00%
1900-1999	80.00%
2000-2099	79.00%
2100-2249	78.00%
2250-2399	77.00%
2400-2599	76.50%
2600-2799	76.00%
2800-2999	75.00%
3000-3249	74.00%
3250-3499	73.00%
3500-3999	72.00%
4000-4499	71.50%
4500-4999	70.50%
5000-UP	70.00%

Manufactured Single Sect. Main Area Size Adjustment

AREA	ADJ.
0001-0524	110.00%
0525-0549	109.50%
0550-0574	109.00%
0575-0599	108.50%
0600-0624	108.00%
0625-0649	107.50%
0650-0674	107.00%
0675-0699	106.50%
0700-0724	106.00%
0725-0749	105.50%
0750-0774	105.00%
0775-0799	104.50%
0800-0824	104.00%
0825-0849	103.50%
0850-0874	103.00%
0875-0899	102.50%
0900-0924	102.00%
0925-0949	101.50%
0950-0974	101.00%
0975-0999	100.50%
1000-1049	100.00%

AREA	ADJ.
1050-1074	99.50%
1075-1099	99.00%
1100-1124	98.50%
1125-1149	98.00%
1150-1174	97.50%
1175-1199	97.00%
1200-1224	96.50%
1225-1249	96.00%
1250-1274	95.50%
1275-1299	95.00%
1300-1324	94.50%
1325-1349	94.00%
1350-1374	93.50%
1375-1399	93.00%
1400-1424	92.50%
1425-1449	92.00%
1450-1474	91.50%
1475-1499	91.00%
1500-1524	90.50%
1525-UP	90.00%

MAIN BUILDING ADDITION CODES

AC CODE	DESCRIPTION	SIZE ADJ.	UNIT RATE
01	Brick Addition	M12	$53.90-$72.90
02	Brick Garage Fin	M11	$23.40-$31.65
03	Brick Garage Unfin	M11	$19.55-$26.45
04	Canopy	M21	$9.15-$12.40
05	Carport	M13	$14.60-$19.75
06	Covered Porch	M21	$21.75-$29.45
07	Loading Dock	M21	$13.60-$18.40
08	Enclosed Frame Porch	M22	$36.40-$49.25
09	Enclosed Glass Porch	M22	$47.20-$63.85
10	Enc. Masonry Porch	M22	$37.90-$51.30
11	Frame Addition	M12	$51.35-$69.45
12	Frame Deck	M21	$13.05-$17.65
13	Frame Garage Fin	M11	$22.25-$30.15
14	Frame Garage Unfin	M11	$18.00-$24.40
15	Frame/Metal Storage	M22	$20.65-$27.95
16	Frame Garage W/Living	M21	$55.00-$65.00
17	Full Screen Porch	M22	$23.95-$32.40
18	Overhead Doors	--	--
19	Half Screen Porch	M22	$24.95-$33.75
20	Masonry Stoop	M12	$11.50-$16.60
21	Masonry Storage	M22	$21.65-$29.30
22	Mezzanine Display	M12	$21.40-$36.00
23	Above Avg. Exterior	M12	$36.65-$49.55
24	Average Exterior	M12	$33.40-$45.20
25	Brick Garage W/Living	M21	$55.00-$68.00
26	Concrete Slab	M14	$4.00-$6.40
27	Frame Overhang	M12	$40.00-$50.00
27M	Masonry Overhang	M12	$40.00-$50.00
28	Frame Bay	M12	$45.90-$62.10
28M	Masonry Bay	M12	$48.20-$65.20
29	Mezzanine Office	M12	$24.45-$36.00
30	Attached Brick Office	M12	$53.55-$72.45
31	Attached Frame Office	M12	$44.00-$69.00
32	Masonry Warehouse	M12	$23.00-$31.10
33	Miscellaneous Storage	M12	$20.65-$27.95
34	Attached Warehouse	M12	$21.90-$29.60
35	Sun Room	M22	$43.50-$58.90
36	Semi Interior Finish	M12	$7.05-$9.55
37	Patio	M14	$8.80-$11.90
38	Finished Basement Addn	M12	$39.10-$52.90
39	Enc. Br Carport/Gar	M12	$39.80-$53.80

AC CODE	DESCRIPTION	SIZE ADJ.	UNIT RATE
40	Enc. Fr Carport/Gar	M12	$37.55-$50.80
41	Brick Garage W/U Attic	M11	$40.00-$52.00
42	Fr. Garage W/U Attic	M11	$40.00-$53.00
43	Fr. Garage W/Unf Attic	M11	$30.00-$40.00
44	Brick Garg W/Unf Attic	M11	$30.00-$40.00
45	Commercial Canopy	M21	$19.10-$25.90
46	Metal Warehouse	M12	$20.00-$26.00
47	Above Avg. Enclosure	M12	$23.80-$41.70
48	Average Enclosure	M12	$20.15-$31.35
51	Lean To Shed	M14	$3.40-$5.80
52	Hot Tub/Sauna		$3,000-$4,500
53	2 St. Covered Porch	M21	$32.70-$44.30
54	2nd Floor Frame Addn	M12	$33.90-$45.90
55	2nd Floor Brick Addn	M12	$35.60-$48.20
56	Balcony	M21	$20.00-$30.00
57	Commer Drive-Thru		
58	Penthouse	M12	$16.15-$21.85
59	Indoor Pool	M12	$42.50-$65.50
60	Bank Vault	--	$75.00-$188.40
61	Bank Drive In Window	--	$7,000-$12,650
62	Cooler-Chiller	--	$8.30-$11.20
63	Cooler-Freezer	--	$10.40-$14.10
64	Cooler-Sharp Freeze	--	$14.10-$19.10
65	Dock Levelers	--	$4,250-$7,500
66	Covered Dock	M21	$18.45-$24.95
67	Enclosed Dock	M21	$22.25-$30.15
68	Record Vault	--	$48.00-$68.40
69	Greenhouse	M21	$35.70-$56.00
70	Unfin. Upper Level	M12	$10.70-$14.50
71	Attached R.S.F. Office	M12	$40.00-$62.15
72	Minimum Enclosure	M12	$7.65-$12.00
73	Attached Frame Shop	M12	$20.05-$28.50
74	Attached Brick Shop	M12	$21.50-$31.50
75	Attached R.S.F Shop	M12	$19.50-$26.50
76	Auto Showroom	M12	$51.70-$70.00
77	Roof Monitor	M12	$3.50-$7.50
78	Unfin Basement Addn	M12	$20.80-$28.20
79	Outdoor Kitchen	--	$4,250-$5,750

ATTACHMENT CODE
SIZE ADJUSTMENT

M11

AREA	ADJ.
001-150	110
151-200	108
201-250	106
251-300	104
301-350	102
351-600	100
601-650	98
651-700	96
701-750	94
751-800	92
801-UP	90

M12

AREA	ADJ.
001-050	110
051-100	105
101-150	102
151-400	100
401-550	98
551-700	96
701-850	94
851-1000	92
1001-UP	90

M13

AREA	ADJ.
001-150	110
151-200	105
201-250	102
251-400	100
401-600	98
601-700	96
701-800	94
801-900	92
901-UP	90

M14

AREA	ADJ.
001-040	100
041-080	98
081-150	96
151-300	94
301-UP	90

M21

AREA	ADJ.
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

M22

AREA	ADJ.
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

QUALITY GRADE

Quality Grade	Percent
AAA	300%
AA+	250%
AA+-	225%
AA-	200%
A+40 or A+50	185%
A+20 or A+30	175%
A+10 or A+15	165%
A+- or A+05	155%
A-05 or A-10	145%
B+10	135%
B+- or B+05	125%
B-05 or B-10	120%
C+10	110%
C+05	105%
C+-	100%
C-05 or C-10	95%
D+10	90%
D+-	85%
D-05 or D-10	75%
E+05 or E+10	65%
E+-	55%
E-10 or E-20	45%
E-30 thru E-50	40%

C.D.U. TABLE (HOUSE/MODULAR)

YEAR BUILT	EX	VG	GD	AV	FR	PR	VP	UN
2013-2017	100	100	100	99	95	90	85	10
2008-2012	100	99	98	97	93	87	83	10
2003-2007	100	98	97	95	90	85	80	10
1998-2002	98	97	95	90	85	75	70	10
1993-1997	95	95	90	85	80	70	65	5
1988-1992	90	90	85	80	75	65	60	5
1978-1987	85	85	80	75	70	60	50	5
1968-1977	80	80	75	70	65	55	40	5
1959-1967	75	75	70	65	60	45	35	5
1948-1958	75	70	65	60	55	35	25	5
1947-Older	75	65	60	55	55	25	15	1

Multi-Sect. Manufactured C.D.U. TABLE

YEAR BUILT	MEX	MVG	MGD	MAV	MFR	MPR	MVP	MUN
2016	99	99	99	99	90	80	70	5
2015	98	98	98	98	88	78	68	5
2014	97	97	96	96	86	76	66	5
2013	96	96	95	95	84	74	64	5
2012	95	94	93	92	82	72	62	5
2011	94	93	92	90	80	70	60	5
2010	93	92	90	88	78	68	58	5
2009	92	91	89	86	76	66	56	5
2008	91	90	87	84	74	64	54	5
2007	90	88	86	82	72	62	52	5
2006	89	87	84	80	70	60	50	5
2005	88	86	83	78	68	58	48	5
2004	87	84	81	76	66	56	46	5
2003	86	83	80	74	64	54	44	5
2002	85	81	78	72	62	52	42	5
2001	84	80	77	70	60	50	40	5
2000	83	79	75	68	58	48	38	5
1999	82	78	74	66	56	46	36	5
1998	81	77	72	64	54	44	34	5
1997	80	75	71	62	52	42	32	5
1996	79	74	69	60	50	40	30	5
1995	78	73	68	58	48	38	28	5
1994	77	71	65	56	46	36	26	5
1993	76	70	64	54	44	34	24	5
1992	75	69	62	52	42	32	22	5
1991	74	68	61	50	40	30	20	5
1990	73	67	59	48	38	28	18	5
1989	72	65	58	46	36	26	16	5
1988	71	64	56	44	34	24	14	5
1987	70	63	55	42	32	22	12	5
1986-Older	69	62	54	40	30	20	10	5

OTHER BUILDING AND YARD ITEMS PRICING SCHEDULES

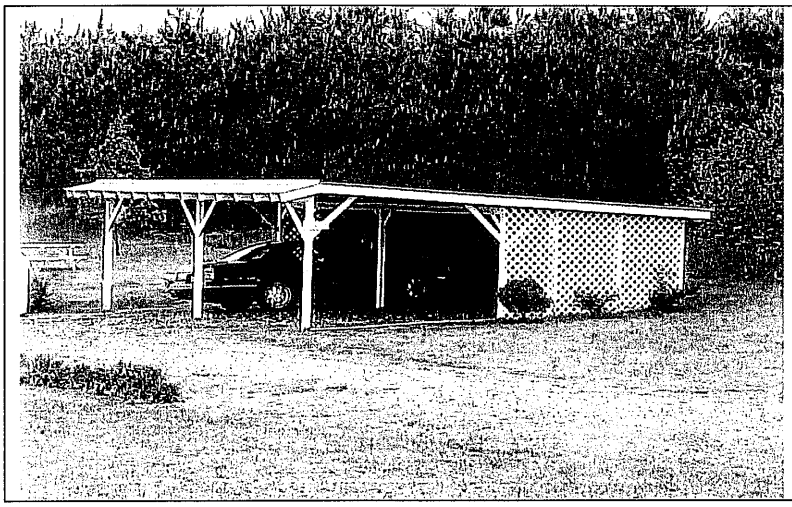
The Other Building and Yard Item pricing schedules are provided to calculate the replacement cost new of a variety of types of structures typically associated with residential property.

Base prices and adjustments are provided for swimming pools, detached garages, greenhouses, carports, canopies, utility buildings, tennis courts, boat houses, and boat docks. Each structure has been assigned a unique Structure Type Code to be utilized on Computer-Assisted Mass Appraisal (CAMA) programs.

Depreciation allowances, where applicable, are included on the appropriate schedule. Additional tables can be found in the Depreciation Schedules and Tables section of the Manual.

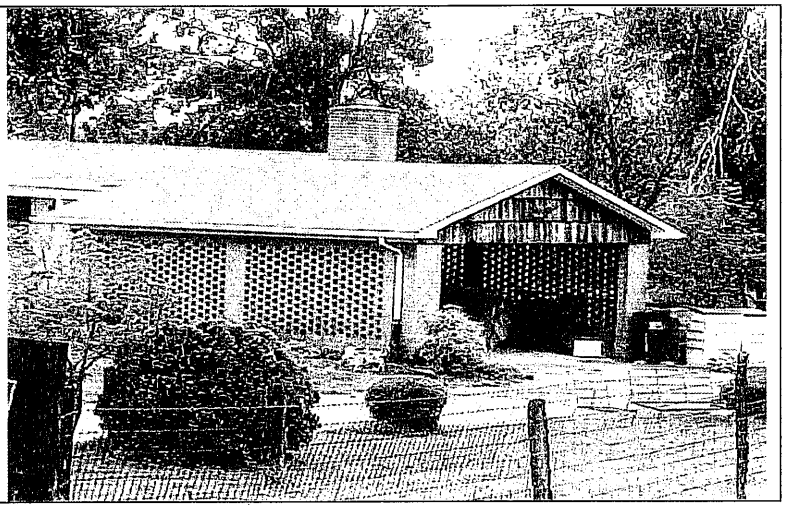
The general pricing procedure is as follows:

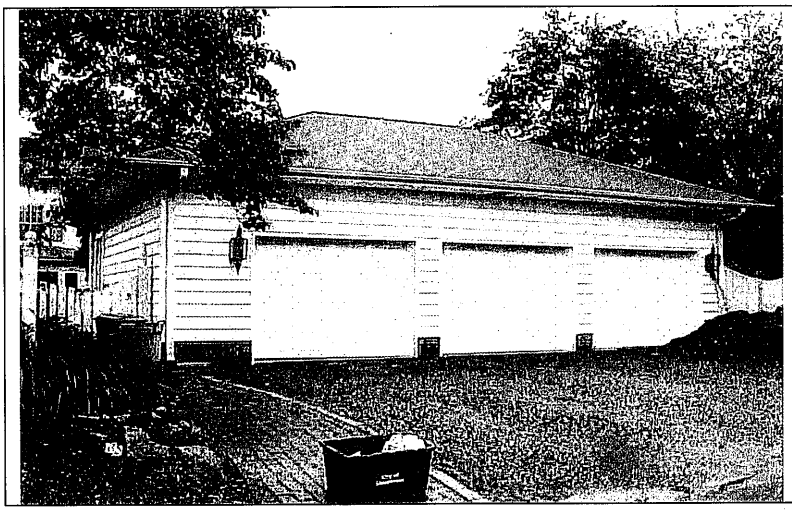
1. Determine the Miscellaneous Structure code that best describes the structure. (Ex. detached frame garage is a MS 10)
2. Multiply the square footage of the building by the square foot rate times the size factor for that structure code. (Ex. 900 sq. ft. X $23.40 X .90 = $18,954)
3. Apply the proper Quality Grade Factor to arrive at the Replacement Cost New. The standard pricing schedule is at a C grade building.
4. Apply the proper depreciation from the correct table. (Ex. A garage built in 1990 in normal condition is reduced by 20% to its final value)
5. The final value for the building is finished.



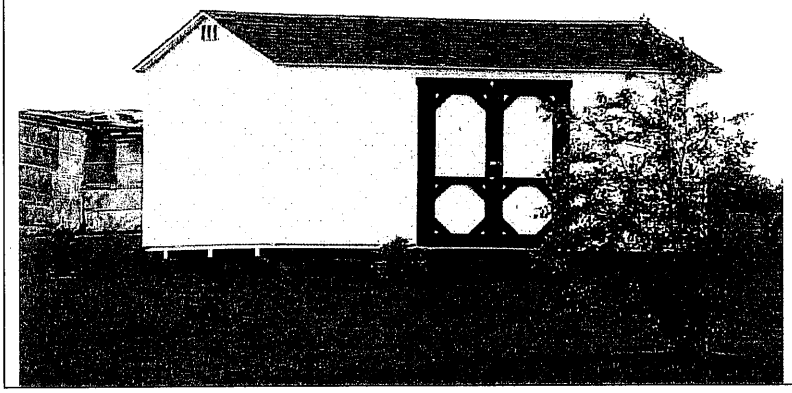
MS 04
CANOPY

MS 05
CARPORT



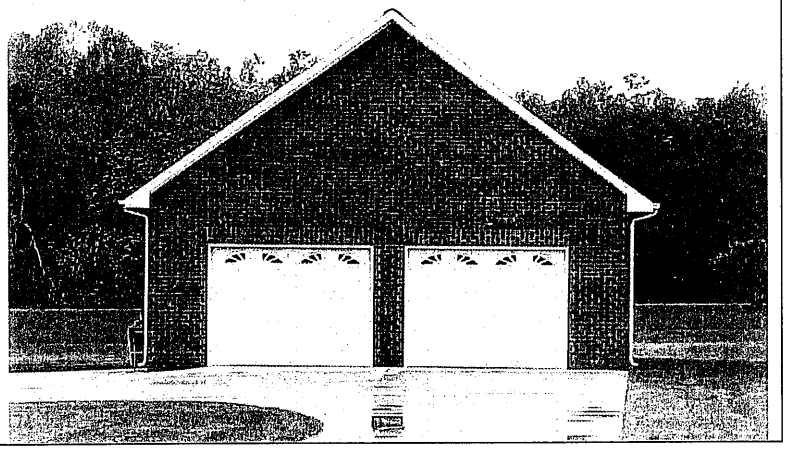


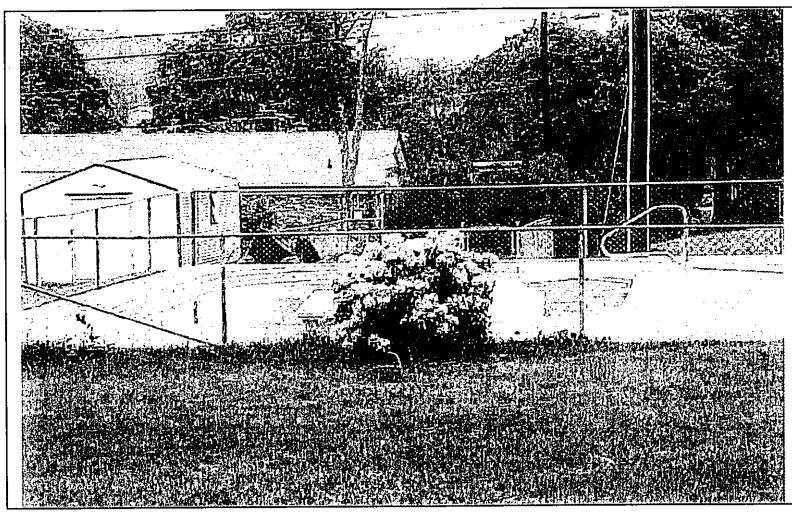
MS 10
FRAME
GARAGE



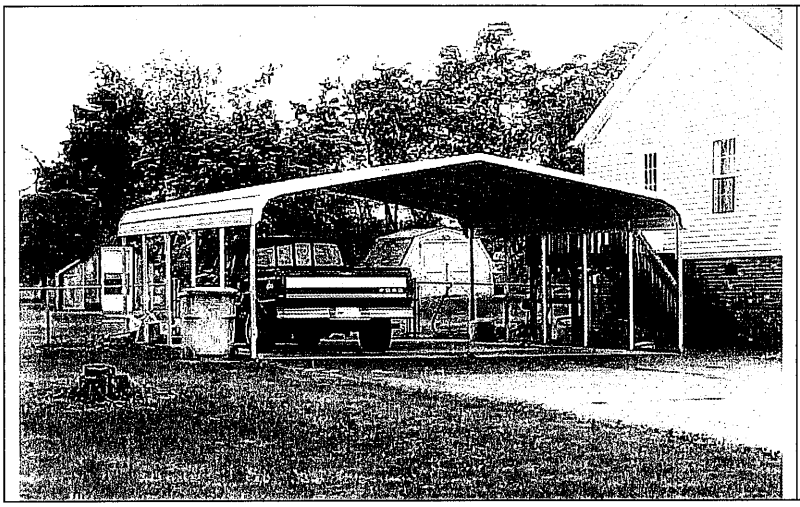
MS 28
STORAGE
BARN

MS 45
BRICK
GARAGE



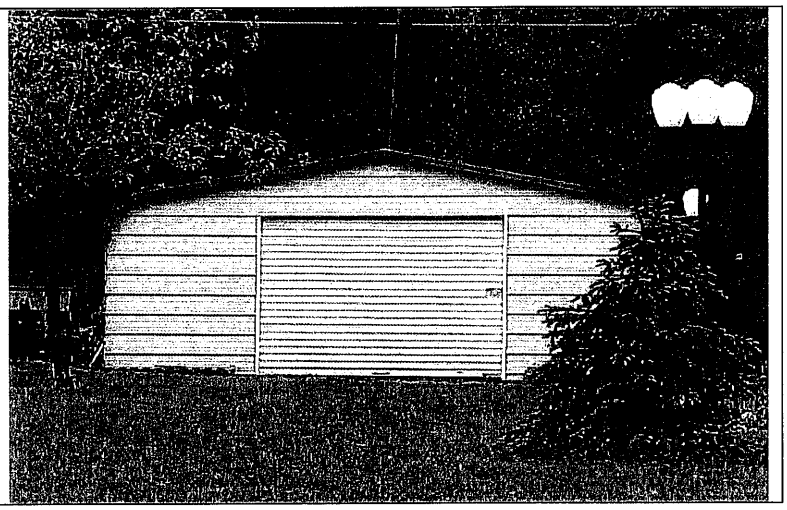


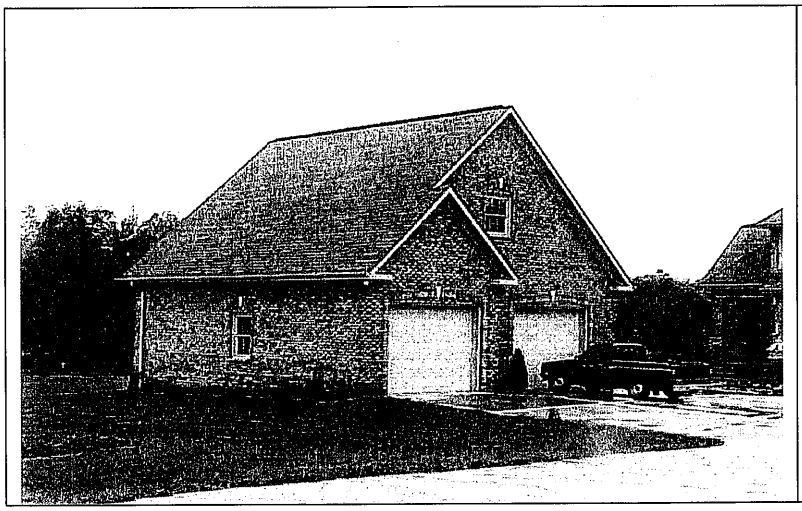
MS 50
SWIMMING
POOL



MS 81
CAR SHED

MS 81E
ENCLOSED
CAR SHED





MS 63
BRICK
GARAGE
W/ATTIC

AGRICULTURAL BUILDINGS

This section of the Manual has been developed to be used as a guide for estimating the replacement cost new of agricultural buildings. The Cost Schedules included contain base specifications and prices for normal "C" Grade average construction with additions and deductions to account for variations from the base specifications. These schedules are designed for either manual or computer application through the use of Structure Type Codes.

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Special Purpose Dairy and Horse Barns
General Purpose Bank Barns
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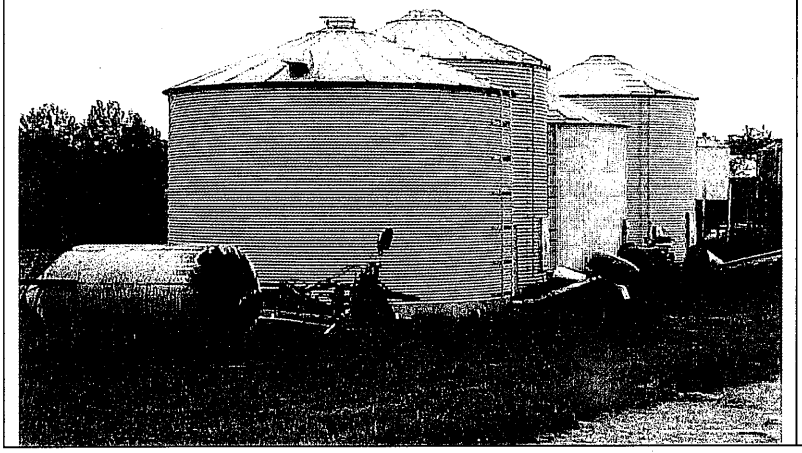
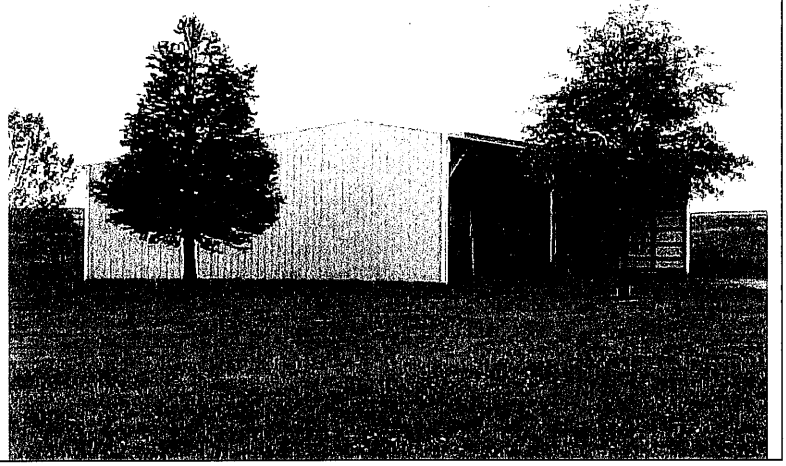
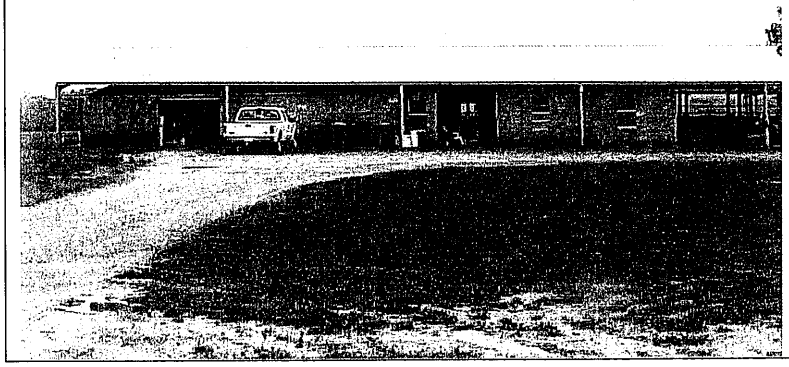
Trench Silos
Bunker Silos
Pole Frame Buildings
Implement Sheds
Quonset Buildings
Corn Cribs
Poultry Houses
Prefabricated Steel Buildings
Steel Grain Bins



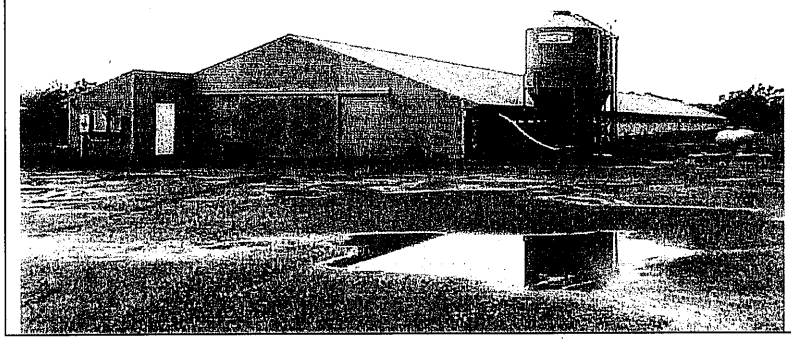
MS 12
GRAIN BINS

MS 17
IMPLEMENT
SHED



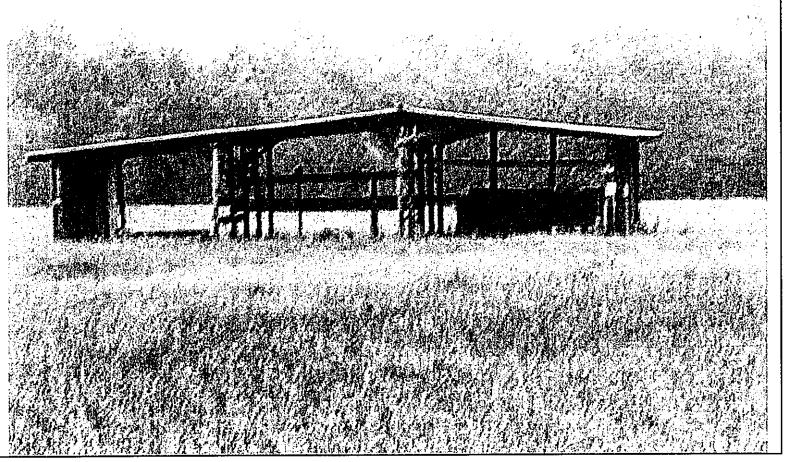


MS 20
MILK
PARLOR

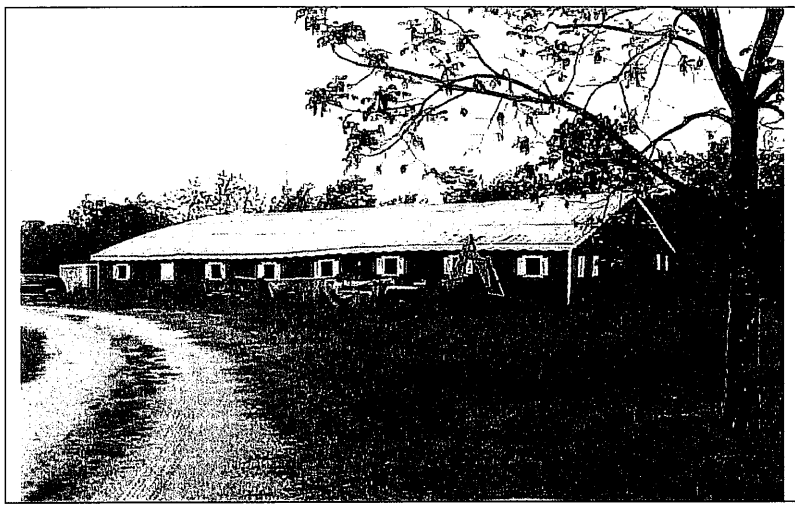


MS 21
POULTRY
HOUSE

MS 23
POLE SHED

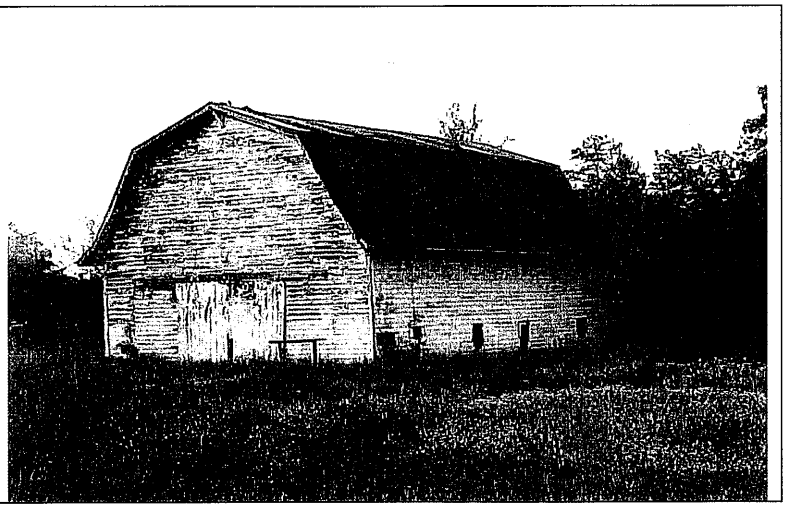


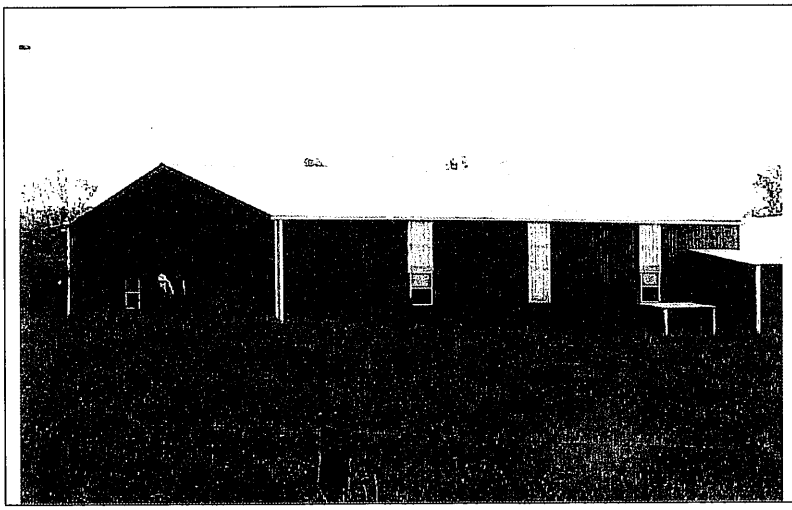
MS 25/59
SILO
CON. STAVE
AND GLASS
LINED



MS 26
STABLE
HORSE BARN

MS 27
STOCK/FEED
BARN





MS 49
UTILITY
BLDG.
R.S.F

Agriculture or farm building schedules are provided to calculate the replacement cost new of a variety of types of structures typically associated with agricultural property.

Base prices and adjustments are provided for barns, implement sheds, poultry houses, greenhouses, utility buildings, etc. Each structure has been assigned a unique Structure Type Code to be utilized on Computer-Assisted Mass Appraisal (CAMA) programs.

Depreciation allowances, where applicable, are included on the appropriate schedule. Additional tables can be found in the Depreciation Schedules and Tables section of the Manual.

The general pricing procedure is as follows:

1 Determine the Miscellaneous Structure code that best describes the structure. (Ex. horse barn is a MS 26)
2 Multiply the square footage of the building by the square foot rate times the size factor for that structure code. (Ex. 3200 sq. ft. X $18.00 X .90 = $51,840)
3 Apply the proper Quality Grade Factor to arrive at the Replacement Cost New. The standard pricing schedule is at a C grade building.
4 Apply the proper depreciation from the correct table. (Ex. a horse barn built in 2000 in normal condition is reduced by 55% to its final value)
5 The final value for the building is finished.

Miscellaneous Structures

MS Code	DESCRIPTION	SIZE ADJ.	SQFT/UNIT RATE	DEP. TABLE
01	Asphalt Paving	M11	$ 2.00	D1
02	Bath House	M12	$ 30.25	D3
03	Bulk Barn	---	$ 1,650.00	D3
04	Canopy Detached	M21	$ 9.00	D3
05	Carport Detached	M21	$ 14.50	D3
06	Concrete Paving	M11	$ 2.50	D1
08	Egg/Apple House	M12	$ 22.00	D2
09	Fence (Chain Link)	M11	$ 12.50	D1
10	Frame Garage Unfinished	M11	$ 20.00	D3
10A	Frame Garage with Unf/Attic	A1	$ 27.85	D3
12	Grain Bins Metal	---	$ 2.00	D1
14	Granary/Crib Frame	M14	$ 5.50	D2
15	Green House	M14	$ 7.50	D2
16	Hog Parlor	M14	$ 9.75	D2
17	Implement Shed 3 Side	M14	$ 5.25	D2
18	Lumber Shed Pole 3 Side	M14	$ 7.50	D2
20	Milk Parlor	M14	$ 17.25	D2
21	Poultry House no Equipment	---	$ 4.50	D2
21W	Poultry House w Equipment	---	$ 8.10	D2
23	Shed (Open Pole)	M14	$ 5.00	D2
23E	Shed (Enclosed 3 Side)	M14	$ 7.25	D2
24	Shop Frame/Conc. Block	M11	$ 21.25	D3
24A	Studio	---	$ 25.00	--
25	Silo Concrete Stave	---	$ 350.00	D2
26	Stable/Horse Barn	M14	$ 15.00	D2
26A	Stable W/Living Area	M14	$ 26.50	D2
27	Stock/Feed Barn W/Loft	M14	$ 12.50	D2
28	Storage Barn No/Finish	M14	$ 10.00	D2
282	2 Story Shed	M14	$ 22.85	D2
29	Storage Bldg Finished	M14	$ 14.50	D2
30	Swimming Pool Concrete	M11	$ 35.00	D1
31	Tennis Court W/Fencing	---	$ 5.00	D1
32	Mobile Home Single/Wd	---	---	---
32C	Camper	---	---	---
32S	Single Wide Storage Only	---	---	---

Miscellaneous Structures

MS Code	DESCRIPTION	SIZE ADJ.	SQFT/UNIT RATE	DEP. TABLE
33	Dwelling Sound Value	---	---	---
34	Detached Deck	M21	$ 12.50	D3
34P	Detached Porch	M21	$ 15.00	D3
35	Mobile Home Att/Detached Addition	M12	$ 40.00	D3
36	Tobacco Barn	M14	$ 12.50	D2
37	Well Residential	---	---	---
38	Septic Tank	--	--	--
40	Boat Dock	--	$ 15.00	D2
41	Boat House Enclosed	M11	$ 21.25	D3
42	Boat Shelter	--	$ 18.15	D2
43	Mobile Home Spaces	---	$ 4,000.00	
44	Hay Shed Open	M14	$ 5.25	D2
45	Dairy Barn	M14	$ 12.45	D2
46	Loung. Shed (Enclosed)	--	$ 7.50	D2
47	Pole Barn Open	M14	$ 6.75	D2
48	Lean-to Shed	M14	$ 2.50	D2
49	Utility Bldg R.S.F.	M11	$ 12.85	D3
50	Swimming Pool Vinyl	M11	$ 28.55	D1
53	Quonset Building	M11	$ 9.50	D3
55	Swimming Pool Fiberglass	M11	$ 29.55	D1
59	Silo (Glasslined)	---	$ 1,000.00	D1
61	Garage Frame Unfinished Attic	M11	$ 38.00	D3
62	Garage Frame Finished Attic	M11	$ 48.50	D3
63	Garage Brick Unfinished Attic	M11	$ 40.45	D3
64	Garage .Brick Finished Attic	M11	$ 51.25	D3
68	Hot Tub	--	$ 3,500.00	D1
70	Misc. Dwelling Att.	M12	$ 45.00	D3
76	Finished Frame Garage	M11	$ 24.20	D3
77	Brick Garage Unfinished	M11	$ 20.45	D3
78	Brick Garage Finished	M11	$ 25.00	D3
79	Gazebo	--	$ 1,500.00	D1
80	Utility Building	M11	$ 12.85	D3

81	Car Shed Pole	M11	$	2.75	D1
81E	Car Shed Enclosed	M11	$	4.50	D1
82	Garage Apartment Frame	M11	$	48.50	D3
83	Garage Apartment Brick	M11	$	51.25	D3
84	Greenhouse Glass	M14	$	15.95	D2
85	Boat Slip	--	$	15.00	D3
92	Plumbing Fixtures	--	$	1,050.00	--
93	Central Air	--	$	3.00	--
96	Fireplace Outdoor	--	$	4,000.00	D3
97	Shoreline Improvement	--	$	100.00	D1
98	Construction In Progress	---		---	---
99	Misc.	---	$	0.00	---
99001	Mineral Rights	---	$	5.00	---

MISC. STRUCTURE SIZE ADJUSTMENT

M11	
AREA	ADJ.
001-150	110
151-200	108
201-250	106
251-300	104
301-350	102
351-600	100
601-650	98
651-700	96
701-750	94
751-800	92
801-UP	90

M12	
AREA	ADJ.
001-050	110
051-100	105
101-150	102
151-400	100
401-550	98
551-700	96
701-850	94
851-1000	92
1001-UP	90

M13	
AREA	ADJ.
001-150	110
151-200	105
201-250	102
251-400	100
401-600	98
601-700	96
701-800	94
801-900	92
901-UP	90

M14	
AREA	ADJ.
001-040	100
041-080	98
081-150	96
151-300	94
301-UP	90

M21	
AREA	ADJ.
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

M22	
AREA	ADJ.
001-020	110
021-040	106
041-060	104
061-080	102
081-200	100
201-300	98
301-400	96
401-500	94
501-UP	90

MISCELLANEOUS STRUCTURES
DEPRECIATION

D1

AGE	DEPR.
00-01	10%
01-02	20%
02-03	25%
03-04	30%
04-05	35%
05-06	40%
06-07	45%
08-UP	50%

D2

AGE	DEPR.
00-01	05%
01-02	10%
02-03	15%
03-04	20%
04-05	25%
05-06	30%
06-07	35%
07-08	40%
08-09	45%
09-10	50%
10-11	55%
11-12	60%
12-13	65%
13-14	70%
15-UP	75%

D3

AGE	DEPR.
00--03	05%
04--06	10%
07--09	15%
10--12	20%
13--15	25%
16--18	30%
19--21	35%
22--24	40%
25--27	45%
28--30	50%
31--35	55%
36--40	60%
41--45	65%
45--50	70%
50--UP	75%

D4

AGE	DEPR.
00--04	05%
05--08	10%
09--12	15%
13--16	20%
17--20	25%
21--24	30%
25--28	35%
29--32	40%
33--36	45%
37--40	50%
41--44	55%
45--48	60%
49--52	65%
53--56	70%
57--UP	75%

D5

AGE	DEPR.
00--05	05%
06--10	10%
11--15	15%
16--20	20%
21--25	25%
26--30	30%
31--35	35%
36--40	40%
41--45	45%
46--50	50%
51--55	55%
56--60	60%
61--65	65%
66--70	70%
71--UP	75%

EXEMPT/INSTITUTIONAL BUILDINGS

This section of the Manual includes basic procedures and applications to be utilized to determine the Replacement Cost New for a variety of institutional type structures. Prices are provided based on the structure type and exterior wall material.

BASE SPECIFICATIONS

Base prices assume normal construction, mechanical, and other features such as plumbing, heating, air conditioning, interior finish, framing, elevators, etc., according to the designed building structure type.

SCHEDULE APPLICATION

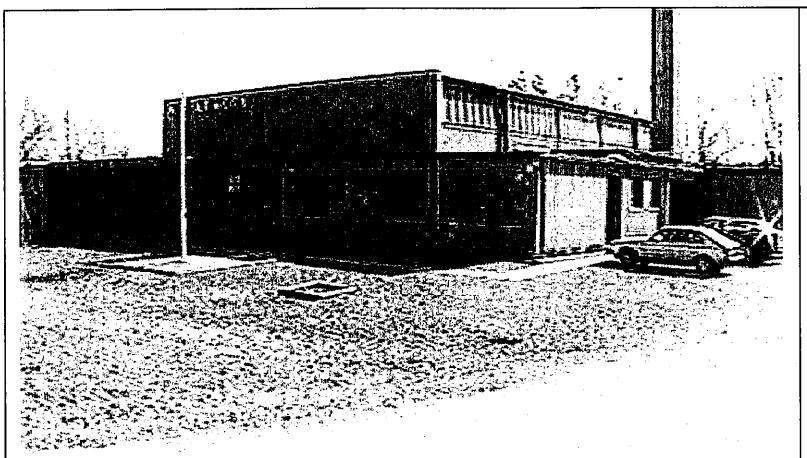
Select the structure type which is most representative of the subject building.
Establish the Quality Grade of the building, which is contingent upon the exterior wall material of the structure type. Determine the total square feet of floor area and multiply the cost per square foot by the total area to establish the replacement cost.

Note: separate prices are provided for finished or unfinished basements.

PERCENT (%) GOOD GUIDELINES

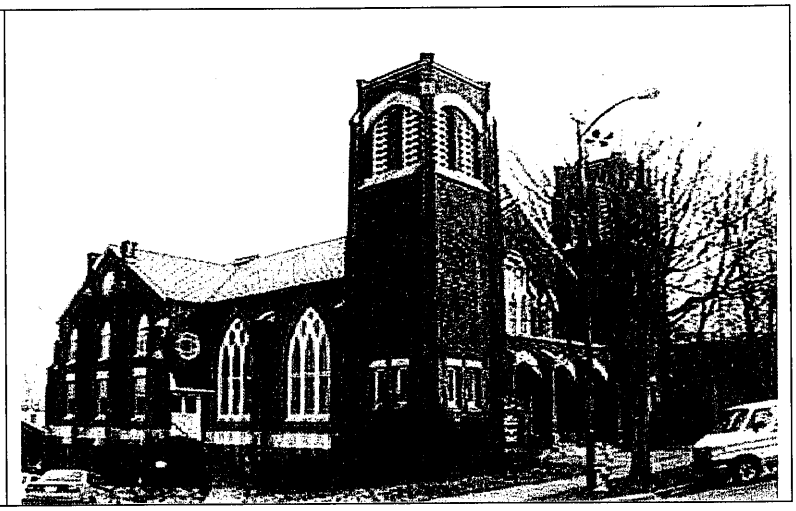
Physical deterioration of institutional buildings should be based on the effective age and condition. Structures of this type normally have an expected life which is longer than other types of similar structures. Actual age and life expectancy can be extended through continued maintenance and renovation. When establishing the percent (%) good, the adjustment should be based on anticipated additional life as compared to normal life guidelines.

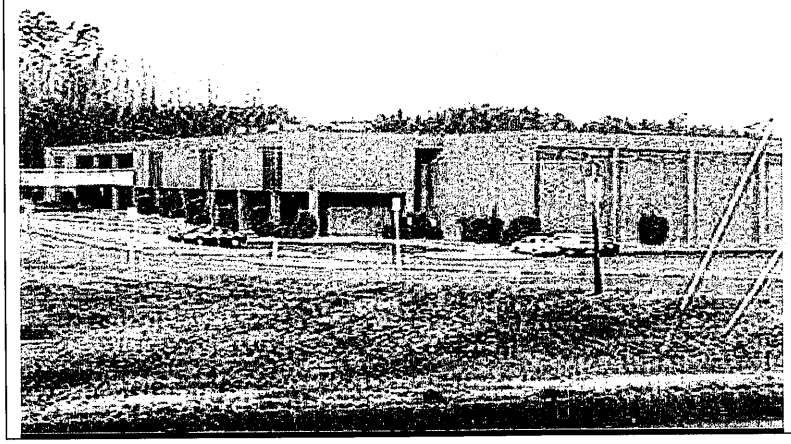
See commercial section for pricing guideline.



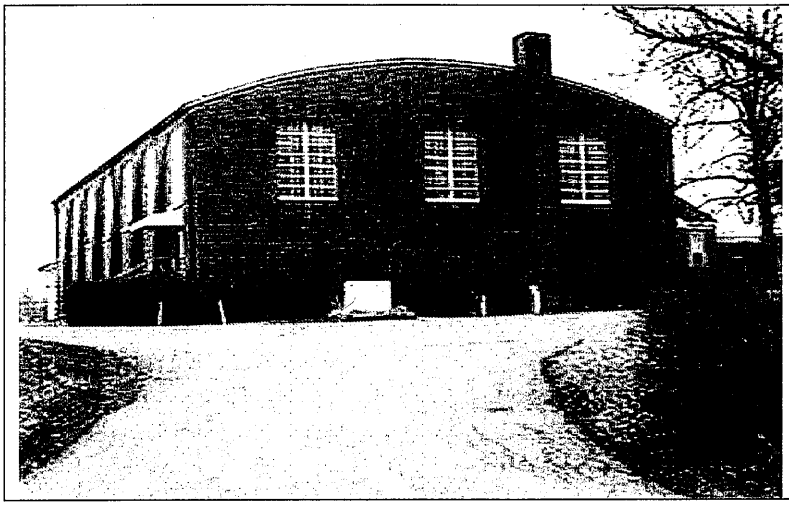
MA 03
ARMORY

MA 10
CHURCH



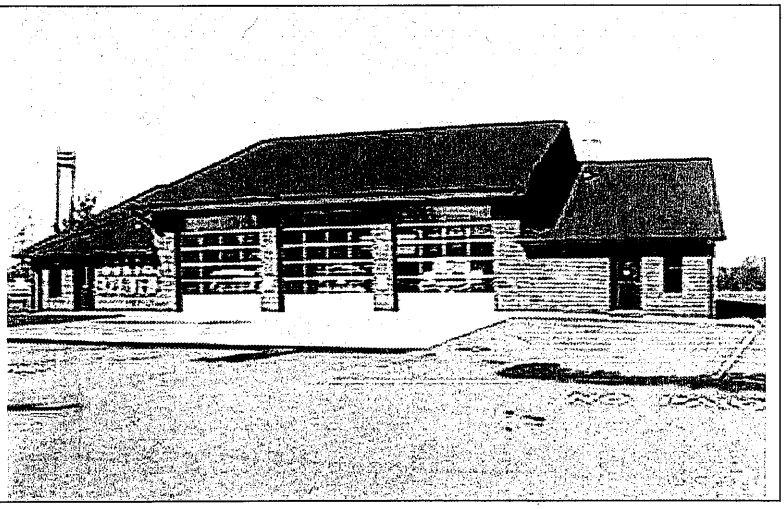


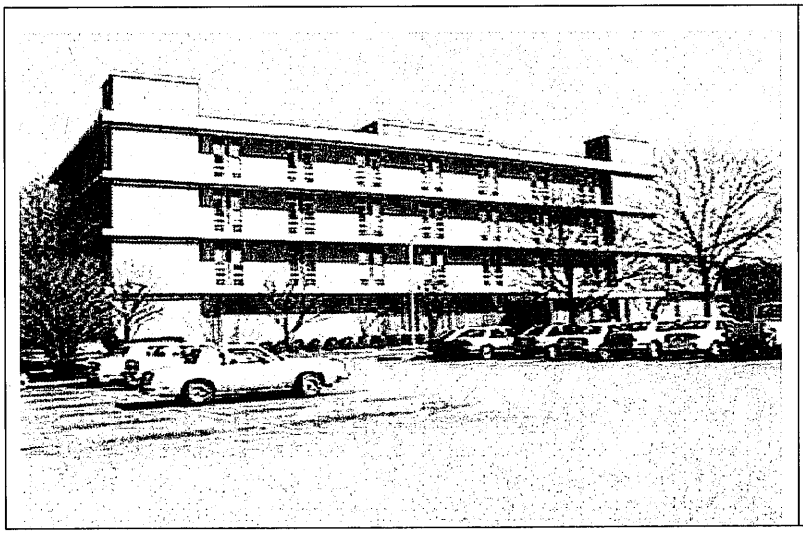
MA 11
CLASSROOM



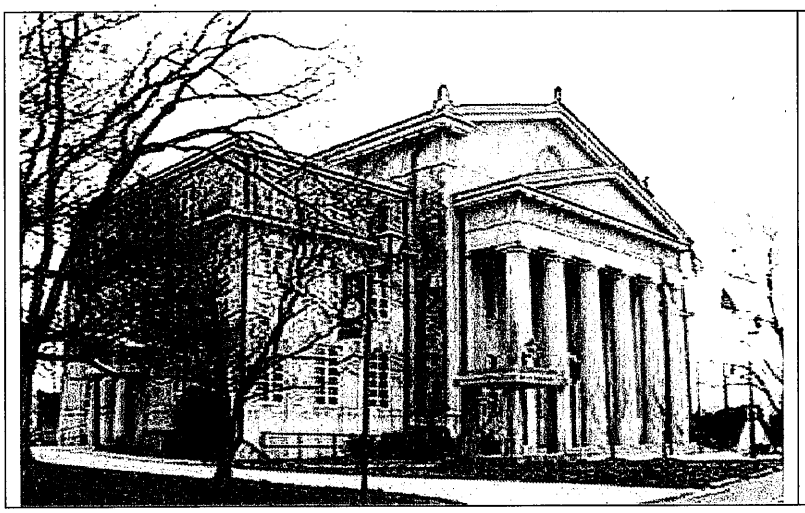
MA 19
GYMNASIUM

MA 20
FIRE/POLICE
STATION



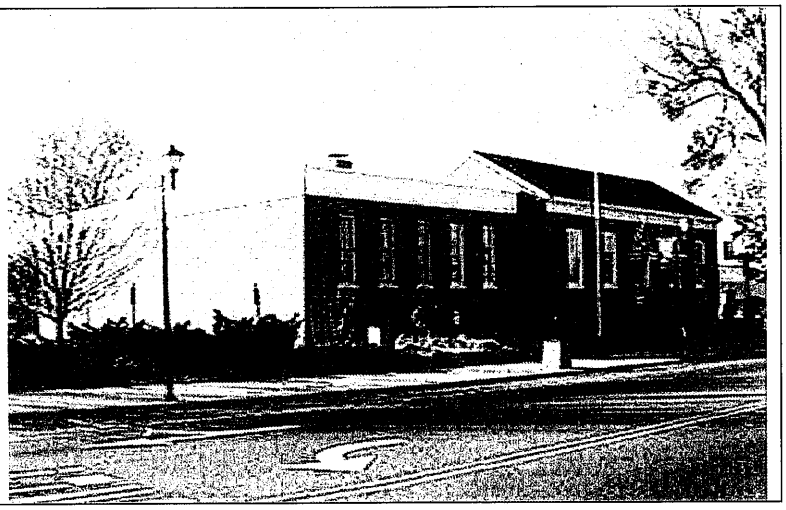


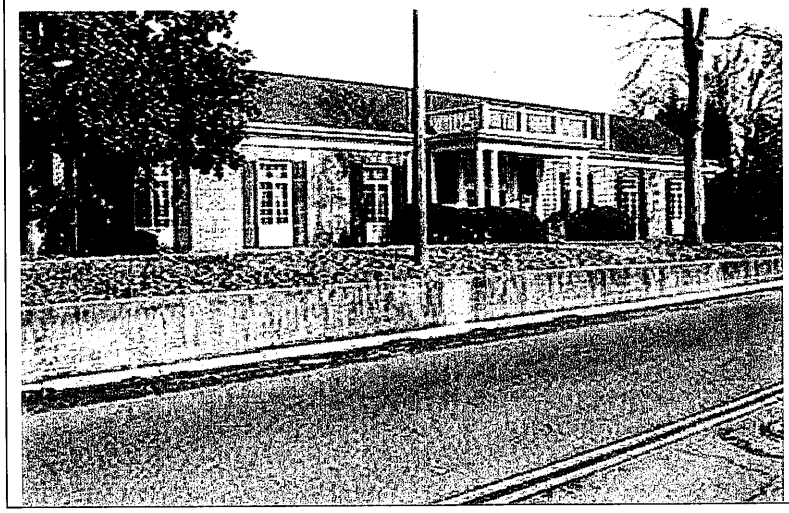
MA 23
HOSPITAL



MA 47
GOVERNMENT BUILDING

MA 66
POST OFFICE





MA 28
LIBRARY

MAIN AREA RATES

MA CODE	OCCUPANCY	WOOD (W)	MASON. (M)	CONC/ST. (C) (S)	R.S.F. (R)	HEIGHT ADJ.
03	Armory	40.85	43.00	49.45	38.35	H2
04	Auditorium	45.10	47.45	54.60	42.60	H2
08	Cafeteria	53.85	56.35	----	51.35	H1
10	Church	64.40	67.80	78.00	62.00	H1
11	Classroom	46.85	49.35	50.85	44.35	H1
19	Gymnasium	43.95	46.45	----	41.45	H2
20	Fire/Police Station	45.00	47.50	----	42.50	H2
23	Hospital	75.00	77.50	79.50	84.50	H2
28	Library	49.50	51.00	52.50	47.00	H1
47	Government Building	53.90	56.40	57.90	51.40	H2
66	Post Office	51.15	56.15	57.65	48.65	H1
74	Jail/Prison	53.90	56.40	57.90	51.40	H1

COMMERCIAL/INDUSTRIAL SCHEDULES

Commercial and Industrial pricing schedules are provided for a variety of buildings based on the use of the buildings. Commercial/Industrial Schedules are to be used as a guide for computing the replacement cost of mercantile type buildings, offices, and similar type structures, commercial living accommodations and associated support structures and manufacturing and warehouse storage type structures.

The general application of all the schedules is essentially the same; select the base price (per square foot) which is most representative of the subject building and adjust the base price to account for any significant variations.

SCHEDULE FORMAT - BASE PRICES

The schedules designate base prices by use type for a series of perimeter-area ratios and wall types. "C" Grade base prices are provided for various finish types at different floor levels with specified floor-to-floor heights, for the following construction types; fire resistant construction, masonry or equal , frame or equal, reinforced concrete and rigid steel construction.

Wood Frame (W) - buildings that are constructed of combustible materials with wood framed exterior walls covered by singles, wood siding, stucco, asbestos, aluminum, or vinyl. Roof structure is usually wood frame or pre-constructed trusses with wood sheathing and composition shingles, built-up or corrugated metal cover. Floor Structure may be perimeter footing with reinforced concrete slab or wood joists and sheathing.

Masonry (M) - buildings that are constructed of double brick, brick on concrete block, stone or ornamental concrete block exterior walls which are usually load bearing. Roof structure is usually wood frame or pre-constructed trusses with wood sheathing and composition shingles, built-up or corrugated metal cover. Floor structure may be perimeter footing with reinforced concrete slab or wood joist and sheathing.

Concrete (C/S) -buildings that are constructed with poured reinforced concrete super structure, or reinforced concrete or per-cast concrete panel load bearing exterior walls. Super structure may have a variety of exterior walls covers including pre-cast panels and masonry veneers, or steel frame and stationary glass. Roof structure may be steel joists with metal decking, and poured concrete or concrete planks or other non-combustible construction. Floors are usually reinforced concrete slab on grade.

Rigid Steel or Pre-Engineered (R) - buildings that are constructed with pre-fabricated structural members with exterior wall cover of pre-constructed panels or sheet siding. Roof structure is steel joists or beams usually with corrugated metal cover. Floors are usually reinforced concrete slab on grade.

The base price is determined by selecting the appropriate square foot price based on exterior wall type, construction and use. The base price is driven by construction type and is adjusted for variations in wall height, and area perimeter ratio adjustments.

The base prices for each use type includes; the exterior walls with normal openings, interior finish, mechanical features, partitions, plumbing, lighting and other basic features typical for that particular use.

Base prices also include; site preparation and normal foundation construction for a building at grade level, normal parapets and coping, ground floor slab including base and cement finish, normal roof construction consisting of insulation, decking, framing, and utility service.

Basements include excavation and backfill and structural floor (for first floor) construction consisting of sub floor and framing.

> Note: The cost of the basement exterior wall construction and spread footings exclude an allowance for the normal foundation construction included with the first floor

Stairways (with enclosures in the finished use types) are included in the basement and upper floor prices.

CONSTRUCTION TYPES

- **Wood Frame/Joist/Beam** to indicate construction, which incorporates wood, stud balloon or platform framing or wood post and beam framing (mill construction). This category also includes masonry structures, which incorporate wood joist or plank floor systems, or wood joist, truss, or rafter roof systems.
- **Fire Resistant** to indicate buildings with exposed structural steel, or reinforced concrete columns and beams. Multi-story structures will have steel floor joists with concrete plank or a reinforced concrete floor system. Exterior walls will typically be masonry or metal and glass panels.
- **Fireproof** to indicate typically high rise buildings with fabricated, heavy, structural steel column and beam framing which has been enveloped in a fire-proof material such as concrete or gypsum. Floors will be reinforced concrete or pre-cast concrete plank on steel joists protected by a gypsum-vermiculite plaster on metal lath ceiling. Exterior walls will be masonry or metal and glass panels.
- **Pre-Engineered Steel** to indicate buildings framed with prefabricated steel members. The structure will incorporate metal beams, girders columns and purloins, or light gauge steel joists manufactured from cold-formed shapes of sheet or strip steel. Multi-story buildings may have floors of wood, steel or concrete. Exterior walls will typically be pre-finished metal siding or sandwich panels.

QUALITY GRADE SPECIFICATIONS

The base prices are for normal "C" Grade buildings erected with average quality materials and workmanship. A Table of Quality Factors is provided to adjust the "C" Grade prices in order to account for variations in construction quality.

AAA Grade — Buildings generally having an exceptional architectural style and design, constructed with finest quality materials and custom workmanship. Superior quality interior finish, built-in features, deluxe heating system, plumbing and lighting.

AA Grade — Buildings generally having an outstanding architectural style and design, constructed with the finest quality materials and workmanship, excellent quality interior finish, built-in features, heating and cooling systems, and very good grade plumbing and lighting fixtures.

A Grade — Architecturally attractive buildings constructed with very good quality materials and workmanship, high quality interior finish, built-in features, heating and cooling systems, and very good grade plumbing and lighting fixtures.

B Grade — Buildings constructed with good quality materials and above average workmanship, moderate architectural treatment, good quality interior finish, built-in features, heating and cooling, plumbing, and lighting fixtures.

C Grade — Buildings constructed with average quality materials and workmanship that conform to the base specifications used to develop the pricing schedule. Minimal architectural treatment, average quality interior finish and built-in features, standard quality heating and cooling systems, plumbing, and lighting fixtures.

D Grade — Buildings constructed with economy quality materials and fair quality workmanship, void of architectural treatment, with fair quality interior finish and built-in features, low grade heating and cooling, plumbing, and lighting fixtures.

E Grade — Buildings constructed with a very cheap grade of materials, usually "seconds" and very poor quality workmanship resulting from unskilled, inexperienced, "do-it-yourself" type labor. Contains low grade heating and cooling, plumbing, and lighting fixtures.

Note: The quality factor selected is to represent a composite judgment of the overall grade. Generally, the quality of materials and workmanship is consistent throughout the construction of a specific building. However,