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Mission of Reassessment

The mission of a reassessment is to inventory, verify, and value all real estate parcels. This process distributes the property tax burden in a uniform and equitable manner. The reassessment of real property includes the following:

- Land
- Buildings and fixtures situated on the land
- Appurtenances to land
- An estate in land or an estate, right, or privilege in mines located on the land or minerals located in the land if the estate, right, or privilege is distinct from the ownership of the surface of the land.

Residential, commercial and industrial land, and agricultural home sites are valued based on values established by the assessing official. The method for valuing buildings and other improvements are the cost of replacing the improvement minus depreciation, the comparable sales approach, and capitalized income approach.

Reassessment of Real Property

A general reassessment of all real property within the state is required as of ~~March 1, 2011~~January 1st of each year. The tax liability resulting from the reassessment is determined by multiplying the net district tax rate by the net assessed valuation of the property less any credits the property may qualify for. All taxes on real property are due in two (2) equal installments on May 10 and November 10 of the following year.

Assessing officials must follow the rules of the Department of Local Government Finance in making any assessment or cyclical reassessment of real property. ~~Assessing officials must begin the reassessment of real property July 1, 2009, and complete it by March 1, 2011.~~ Statewide cyclical reassessments began on July 1, 2014 for the 2015-pay-2016 property taxes, and the subsequent four (4) years. The reassessment period for collecting data, inspecting, and valuing property is thirty-two (32) months.

Place of Assessment and Person Liable

Real property is assessed at the place where it is situated, and it is assessed to the person liable for the taxes as provided in IC 6-1.1-2-4(b) (c). Generally, the owner of any tangible property on the assessment date of a year is liable for the taxes imposed on the property for that year. However, a person holding, possessing, controlling, or occupying any tangible property on the assessment date of a year is liable for the taxes imposed for that year unless the property is assessed and taxed in the name of the owner, or the owner is liable for the taxes under a contract with that person.

Tangible property of a partnership is listed and assessed in the firm name with each partner jointly and severably liable for the taxes assessed.

Real property that is controlled by an executor, administrator, guardian, trustee, or receiver is assessed to the executor, administrator, guardian, trustee, or receiver.

The undivided real property of a deceased person that is not under the control of an executor or administrator may be assessed to the decedent's heirs or devisees without designating the heirs or devisees by name. The real property may be assessed in this manner until notice of:

- the division of the property;
- the names of the heirs or devisees; and
- the portion of the property belonging to each heir or devisee;

is given to the auditor of the county in which the real property is situated.

Each heir or devisee is liable for the total taxes imposed on the undivided real property of a decedent. If an heir or devisee pays the total taxes, the heir or devisee may recover from the other heir or devisee:

- the other heir's or devisee's share of the total taxes; and
- interest on the amount referred to above.

In addition, the heir or devisee who pays the taxes acquires the lien for the taxes paid on the property interest of the other heirs or devisees.

Appraisal and Examination of Buildings

The jurisdiction in which the property is located is responsible for appraising the property or having it appraised. The assessing official, or the assessor's authorized representative, may enter and fully examine all buildings and structures in order to determine the assessed value.

The assessing official keeps the reassessment data and records current by securing the necessary field data and making changes in the assessed value of real property as changes occur in its use. The records must show the assessed value of the real property in accordance with the rules of the Department of Local Government Finance.

Notice to Taxpayers and County Auditor

The assessing official or PTABOA (County Board) must give notice to the taxpayer, by mail, of the amount of the assessment or cyclical reassessment. During a period of ~~general~~ cyclical reassessment, the assessing official must mail the notice of assessment within ninety (90) days after the completion of the appraisal of a parcel. The notice of assessed value is given on Form 11, Notice of Assessment, as prescribed by the Department of Local Government Finance.

The assessing official must notify the county auditor of the assessed value of land and improvements immediately after determining the assessed value of all property in the jurisdiction. The notice must be on Form 29 as prescribed by the Department of Local Government Finance.

Employment of Staff and Professional Appraisers

Subject to the approval of the Department of Local Government Finance and the requirements of IC 6-1.1-4-18~~(a)~~.5, an assessing official or a group consisting of the assessing officials in a county can employ professional appraisers, individuals, or firms that are certified under IC 6-1.1-31.7 as technical advisors.

After notice to the assessing officials in the county, a majority of the assessors authorized to vote under this subsection may vote as follows:

- to employ a professional appraiser to act as a technical advisor in the county during a general reassessment period
- to appoint an assessor or a group of assessors to
  - enter into and administer the contract with a professional appraiser employed under this section
  - oversee the work of a professional appraiser employed under this section.

Each assessing official has one vote. A decision by a majority of the persons authorized to vote is binding on the assessing officials in the county. Subject to the limitations contained in IC 6-1.1-4-18 ~~(a)~~.5, the appointed assessor or assessors may contract with a professional appraiser employed under this section to supply technical advice during a general reassessment period for all jurisdictions in the county. A proportionate part of the appropriation to all jurisdictions for assessing purposes will be used to pay for the technical advice.

Written Contract for Technical Advisors

When utilizing the services of a professional appraiser or appraisal firm for assessment or reassessment purposes, the parties must enter into a written contract. The contract used must be either a standard contract developed by the Department of Local Government Finance or a contract that has been specifically approved by the Department of Local Government Finance.

Notice must be given to solicit bids from anyone desiring to furnish this service before a contract is awarded. The notice of the time and place for receiving bids for the contract must be given by one (1) insertion in two (2) newspapers of general circulation published in the county and representing each of the two leading political parties in the county. If there is only one newspaper published, notice in that one newspaper is sufficient.

The county shall award the contract to the lowest and best bidder who meets all requirements under law for entering a contract to serve as technical advisor in the assessment of property. However, any and all bids may be rejected, and new bids may be asked.

Every contract must contain the following:

- a fixed date for completion of all responsibilities under the contract;
- a penalty clause under which the amount to be paid for appraisal services is decreased for failure to complete specified services within the specified time;
- a provision requiring the appraiser, or appraisal firm, to make periodic reports to the assessing officials involved;
- a provision stipulating the manner in which, and the time intervals at which, the periodic reports are to be made to the assessing official(s) involved;
- a precise stipulation of what service or services are to be provided and what class or classes of property are to be valued;
- a provision ~~requiring a performance bond in the amount of the contract, unless specifically waived by the county commissioners~~stipulating that the contractor will generate complete parcel characteristics and parcel assessment data in a manner and format acceptable to the Legislative Services Agency and the Department of Local Government Finance;
- ~~all applicable standard contract provisions developed by the Department of Local Government Finance under IC 6-1.1-4-19~~a provision stipulating that the Legislative Services Agency and the Department of Local Government Finance have unrestricted access to the contractor's work product under the contract;
- ~~the provisions, pertaining to contractual duties, required to be specified by professional appraisers under rules promulgated under IC 6-1.1-31.7-3~~
- a provision ~~that the contract is void if the professional appraiser's or professional appraisal firm's certification under IC 6-1.1-31.7 is revoked by the Department of Local Government Finance.~~stating that the contract is void and unenforceable if the appraiser is not certified by the Department of Local Government Finance subsequently revokes the professional appraiser's certification under IC 6-1.1-31.7-4 after the contract is executed; and
- any other necessary provisions determined by the Department of Local Government Finance.

~~A county may enter into a contract only on or after January 1, 2009, and on or before June 30, 2009, unless specifically waived by the Department of Local Government Finance.~~

The county council shall appropriate the funds necessary for the employment of the deputies, employees, and technical advisors, including any contractual obligations entered into for professional appraisal services.

Department of Local Government Finance Review

The Department of Local Government Finance shall periodically check the conduct of a general reassessment of property. The Department may inform assessing officials and the presidents of county councils in writing if it finds that the general reassessment is not being properly conducted or if property assessments under the general reassessment are not being properly made. Failure of an official to provide the Department of Local Government Finance, or a representative of the Department of Local Government Finance, with access to official records is evidence of misconduct in office.

The failure of the Department to inform local officials that the reassessment is not being properly conducted or that assessments are not being properly made is not to be construed as an indication by the Department that the general reassessment is being properly conducted, or that property assessments under the general reassessment are being properly made.

If a jurisdiction official fails to prepare a report, a plat, or other property tax record, the Department of Local Government Finance or its representative may prepare it and certify the expenses to the respective jurisdiction that failed to perform the duty. The jurisdiction shall pay the expenses within thirty (30) days. A jurisdiction may recover any amount from the official who failed to perform the duty.

Property Reassessment Fund

~~The county council of each county must levy for property taxes an amount equal to three-fourteenths (3/14) of the estimated cost of the general reassessment.~~ The county council of each county must levy an amount equal to the estimated costs of the reassessments under IC 6-1.1-4-28.5 for the group of parcels to be reassessed in that year.

The Department of Local Government Finance may raise or lower the property taxes levied for a general reassessment if it determines the estimated cost of the general reassessment has changed.

The collections of property taxes levied for this purpose must be deposited by the county treasurer in a property reassessment fund established by the county auditor. The county shall invest any money accumulated in the property reassessment fund until the money is needed for reassessment expenses. The interest earned on the investment is paid into that fund.

Money assigned to the property reassessment fund may be used only to pay the cost of the following:

- the general reassessment of real property

- computerization of assessment records
- updating of plat books
- development or updating of detailed soil survey data by the United States Department of Agriculture or its successor agency
- payments to assessing officials or members of the Property Tax Assessment Board of Appeals for training by the Department of Local Government Finance
- payments for the salary of permanent staff or for the contractual services of temporary staff who assist assessing officials. This appropriation must be approved by the county council.
- making annual adjustments under IC 6-1.1-4-4.5.
- the verification under 50 IAC 27-4-7 of sales disclosure forms forwarded to the county assessor or the township assessors (if any) under IC 6-1.1-5.5-3.

Real and Personal Property Guide

The use of a unit of machinery, equipment, or structure determines its classification as real or personal property. If the unit is directly used for manufacturing, or a process of manufacturing, it is considered personal property. If the unit is a land or building improvement, it is considered real property.

On-site utility piping, such as sanitary and storm sewers, potable water and fire prevention lines, and gas lines are considered on-site development costs and are included in the base rate when calculating the value of land. Real property land improvements are those improvements extraneous to site development, which are placed on the land to improve the parcel. They are normally considered yard items when calculating the replacement cost of the item. Real property land improvements include, but are not limited to, the following:

- retaining walls
- private roads
- paved roads
- bridges
- fencing
- reservoirs
- dams
- fixed river, lake, or tidewater wharves and docks
- permanent standard gauge railroad trackage, bridges, and trestles
- walls forming storage yards and fire prevention dikes.

Structural components and other improvements to buildings are considered real property. These include, but are not limited to, the following:

- foundations

- walls
- floors
- roof
- insulation
- stairways
- partitions
- loading and unloading platforms
- canopies
- areaways
- heating systems
- air conditioning
- ventilation systems
- sanitation
- fixed fire protection
- lighting
- plumbing and drinking water
- elevators and escalators.

To be considered real property, a mobile/manufactured home, must be attached to a permanent foundation or is a mobile/manufactured home where the owner has surrendered the certificate of title under IC 9-17-6-15.1.

A mobile home that does not meet the above criteria and is not assessed as inventory are to be assessed annually under 50 IAC 3.3.

Table 1-1 identifies property as either real property or personal property.

Table 1-1. Real and Personal Property

Property	Type
Agricultural irrigation system, including the distribution system above or below ground	Personal
Air conditioning	
Building air conditioning for comfort of occupants	Real
Package units, through the wall commercial type	Real
Special process equipment to maintain controlled temperature and humidity	Personal
Window units, through the wall or inserted in window	Personal
Air lines for machinery and equipment	Personal
Alarm systems	

Fire alarm system	Personal
Security alarm system	Personal
Aluminum pot lines	Personal
Anhydrous ammonia tanks and equipment	
Stationary	Real
Portable	Personal
Appliances for income producing properties	Personal
Ash handling system, pit and framing related to system	Personal
Asphalt mixing plant and equipment (moveable)	Personal
Auto-call and telephone system	Personal
Bar and equipment	Personal
Bins, permanently affixed for storage	Real
Boilers	
Manufacturing process	Personal
Building service	Real
Booths for welding	Personal
Bowling alley lanes	Personal
Bucket elevators, open or enclosed, including casing	Personal
Buildings, such as specially constructed storage, poultry, or livestock processing buildings, not including machinery or equipment	Real
Bulkheads making additional land area to be assessed with and as a part of the improved land	Real
Carpeting, commercial A real property assessment includes a finished floor. If the carpet is installed over an existing finished floor, carpeting is personal property. If, as in the case of many newer buildings, carpeting has been specified and is the only finished floor, carpeting is assessed as real property.	Real or Personal, depending on the circumstances
Cistern	Real
Coal handling system	Personal
Cold storage	
Built-in cold storage rooms	Real

Cold storage refrigeration equipment	Personal
Cold storage, prefab walk-in type	Personal
Control booth	Personal
Conveyor	
Housing	Personal
Tunnels	Real
Unit, including belt and drives	Personal
Cooling towers	
Primary use for manufacturing	Personal
Primary use for building	Real
Crane	
Moving crane	Personal
Runways, including supporting columns or structure and foundation, inside or outside of buildings	Personal
Dock levelers	Personal
Drapes	Personal
Drying rooms	
Structure	Real
Heating system	Personal
Dust catchers	Personal
Fence, security	Real
~~Fire alarm system~~	~~Personal~~
Fire walls, masonry	Real
Floors, computer room	Real
Foundations for machinery and equipment	Personal
Gaming riverboats	Real
Gas lines for equipment or processing	Personal
Grain bins, storage	Real
Grain drying equipment	Personal
Grain drying equipment, such as augers and aerators	Personal
Grain elevators (commercial, industrial) storage, silos, tanks, cupolas, working house, head-house, and milling space	Real

Grain elevator machinery and equipment (commercial, industrial), such as inside or outside conveyors, spouting, hopper scales, man lifts, aeration systems, grain cleaners, grain dryers, mechanical grain dumping equipment, loading and unloading systems, truck scales, and all processing machinery and equipment	Personal
Grain storage tents (blow-up)	Personal
Gravel plant, machinery, and equipment	Personal
Greenhouses	
Building	Real
Building, plastic cover, in place on assessment date	Personal
Benches and heating system	Personal
Heating system	
Building heating for comfort of occupants	Real
Special purpose to maintain controlled temperature	Personal
Hoist, hoist pits	Personal
Hydraulic lines	Personal
Irrigation equipment	Personal
Kilns	
Lumber, drying kiln structure	Real
Concrete block, drying kiln structure	Real
Circular down draft, beehive	Real
Heating or drying system	Personal
Landscaping, priced with land	Real
Laundry, steam generating equipment	Personal
Lighting	
Yard	Personal
Special purpose, inside	Personal
Service station, except building	Personal
Mixers and mixing houses	Personal
Ore bridge foundation	Personal
Ovens, processing	Personal
Piping, process piping above or below ground	Personal

Pits for equipment or processing	Personal
Pools swimming, in-ground or above-ground	Real
Power lines and auxiliary equipment	Personal
Pumps and motors	Personal
Pump house, including substructure	Real
Racks and shelving, portable or removable	Personal
Railroad siding, except belonging to railroad	Real
Ready-mix concrete batch plant and equipment	Personal
Refrigeration equipment	Personal
Refrigerated display cabinets	Personal
Sanitary system	Real
Satellite dishes	
Commercial use	Personal
Residential use	Personal
Scale houses	Real
Scales	
Truck or railroad scales, including pit	Personal
Dormant scales	Personal
Septic system, priced with land	Real
Sheds or buildings	
Permanent, affixed, or portable confinement buildings	Real
Agricultural open portable pull-type	Personal
Detached storage structures	Real
Portable utility sheds	Real
Signs, including supports and foundation	Personal
Silos	
Containing a manufacturing process	Personal
Farm storage silos	Real
Silo equipment	Personal
Storage	Real
Spray pond	
Masonry reservoir	Real
Piping and equipment	Personal

Sprinkler system	Real
Stacks	
Supported individually and servicing heating boilers	Real
Servicing personal property units or a process	Personal
Steam electric generating facility	
Equipment	Personal Property or distributable property
Building	Real
Stone crushing plant and equipment	Personal
Storage facilities, permanent of masonry or wood	Real
Storage vaults and doors, including bank vaults and doors	Real
Substation	
Building	Real
Equipment	Personal
Tanks	
Short term, portable	Personal
Storage only, except as indicated in clauses (B) and (C), above or below ground	Real
(B) Used as part of manufacturing process	Personal
(C) Underground gasoline tanks at service stations	Personal
Towers, TV or radio broadcasting	Personal
Transformers	Personal
Tunnels	Real
Tunnels, waste heat or processing	Personal
Unit heaters	
Nonportable	Real
Portable	Personal
Unloader runway	Personal
Ventilating	
Ventilating system for manufacturing equipment	Personal
Ventilating system for comfort of employees	Real
Walls, portable partitions	Personal

Water lines, for processing above or below ground	Personal
Water pumping station, building and structure	Real
Water pumps and motors	Personal
Water treating and softening plant	
Building and structure	Real
Water treating and softening equipment	Personal
Wells used for potable water, priced with land	Real
Wells, pumps, motors, and equipment	Personal
Wiring, power wiring	Personal

NOTE:
This section ~~supercedes~~supersedes listings in any other texts used in the assessment of property.

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Overview of the Land Valuation Process

This section describes how each type of land is valued. It discusses how the assessing official determines base rates for the following types of land:

- platted lots
- residential acreage and agricultural homesites
- commercial and industrial acreage.

In addition, this section describes how the assessing official applies the base rates to determine the true tax land value for each of the types of land listed above, as well as for agricultural acreage.

Role of the Assessing Official

The assessing official shall determine the value of all classes of residential land, commercial land, industrial land, and agricultural homesite within his or her jurisdiction. The established value of this land represents the ~~March 1, 2011~~January 1st market value of improved land.

The following list does not apply to this section:

(1) land assessed as land devoted to agricultural use under IC 6-1.1-4-13;

(2) land classified as forest land under IC 6-1.1-6;

(3) land classified as a windbreak under IC 6-1.1-6.2; or

~~(4) land classified as wildlife habitat or riparian under IC 6-1.1-6.5;~~

~~(5)~~(4) land classified as a filter strip under IC 6-1.1-6.7.

The following guidelines shall be followed in determining land valuations.

Representative Parcels

The assessing official must select a representative number of sales disclosure statements filed under IC 6-1.1-5.5 or written estimations of a property value provided by a licensed real estate professional that are based on relevant sales data to justify the land value determination for each neighborhood. All sales disclosure statements must be verified by:

(1) a visual inspection of the subject property; and

(2) a reasonable attempt to determine that the transaction was negotiated as an arm's- length transaction.

All sales disclosure statements selected must be adjusted to exclude the value of any personal property of significant value that was included in the disclosed sales price. All sales disclosure statements selected involving property that is not typical of the neighborhood must be adjusted to negate the affect the atypical aspects of the property have on the disclosed sales price.

For the purposes of this section, a "representative number" shall mean a number that is no less than three percent (3%) of the total number of parcels within the neighborhood established under the section headed "neighborhood."

(1) a lesser percentage is truly representative of values in the neighborhood; or
(2) disclosure statements from a substantially similar neighborhood are truly representative of values in the neighborhood.

Assessing officials should select disclosure statements or estimations of value that, based on all relevant facts and evaluation of the neighborhood as a whole, fairly represent the value of property in the neighborhood.

Representative Disclosure Statements

Representative disclosure statements selected for use must refer to a transaction, or written estimations of value must refer to an estimation of value, that is dated no more than eighteen (18) months prior or subsequent to ~~March 1, 2011~~January 1st. Valuation adjustments may be made based on the date of the disclosure statement or estimations of value. Valuation adjustments should be made as is necessary to approximate the value of the subject land on ~~March 1, 2011~~January 1st.

Land Value Ratio

The assessing official must determine an appropriate land value ratio to be applied to sales disclosure statements or estimations of value of improved properties. This ratio must take into account factors that are critical to determination of the value of the land. The ratio and factors must be included as part of the land value determination. The factors should include, but not be limited to, such factors as:

(1) unimproved lot sale prices designated by property developers;
(2) the desirability due to physical features, such as waterfront property or wooded lots;
(3) the desirability of the location due to external features, such as school district or proximity to commercial developments; and
(4) consideration of the replacement cost of the improvement.

Neighborhoods

All property within a jurisdiction must be established as part of a neighborhood defined by the assessing official. The assessing official shall define neighborhoods according to:

(1) common development characteristics;
(2) the average age of the majority of improvements;
(3) the size of lots or tracts;
(4) subdivision plats and zoning maps;

(5) school and other taxing district boundaries;

(6) distinctive geographic boundaries;

(7) any manmade improvements that significantly disrupt the cohesion of adjacent properties;

(8) sales statistics; and

(9) other characteristics deemed appropriate to assure equitable determinations.

Maps

All neighborhoods must be identified on easily read maps. The maps must be numerically organized, clearly delineate the neighborhood boundary, show the neighborhood established base rate and the code number. All neighborhoods shall be assigned a code number for identification. A copy of the maps shall be readily available for public inspection.

All property record cards must give the:

(1) number of the map on which the neighborhood that includes the subject property is shown;

(2) neighborhood code number; and

(3) applicable base rate.

Base Rates and Base Lots

The assessing official shall establish a base rate for pricing each neighborhood. Base rates should include a specifically stated value for water supply, sewage disposal, and all other on-site development costs. Neighborhoods shall be classified according to majority use as residential, agricultural homesite, commercial, or industrial. The assessing official shall also establish a base lot to represent the typical and average characteristics of lots in the neighborhood for the purpose of making pricing adjustments.

Maximum Allowable Percentage Variance

The assessing official shall establish a maximum allowable percentage variance between the base lot value for neighborhoods having the same classification and substantially similar characteristics. The maximum allowable percentage variance should not exceed twenty percent (20%). (If ranges are established, the maximum allowable percentage variance should be applied to compare the two (2) highest rates to each other and the two (2) lowest rates to each other.) If adjacent neighborhoods located on opposite sides of a jurisdiction or county boundary:

(1) have the same classification and substantially similar characteristics; and

(2) the variance between the neighborhood base lot values is greater than the maximum allowable percentage variance established by either jurisdiction;

For the purposes of this section, "substantially similar characteristics" refers to characteristics that are predominant in, and common to, each neighborhood, and in all material respects are substantially similar in terms of:

(1) the size and shape of lots or tracts;
(2) the age and style of improvements;
(3) the condition and quality of improvements;
(4) zoning;
(5) the general use of improvements;
(6) development conditions;
(7) infrastructure components;
(8) geographic features;
(9) proximity to primary traffic routes;
(10) governmental services; and
(11) neighborhood desirability, as reflected by market values.

Influence Factors

In addition to the provisions of this chapter, the assessing official shall establish detailed criteria relating to influence factors that may be applied to individual parcels. The criteria relating to influence factors shall include:

(1) criteria for identifying and determining the existence of unique features that are inconsistent with the norm for the neighborhood;
(2) specific conditions that will be considered as evidence that a parcel deserves an influence factor;
(3) a method for evaluating whether a particular condition actually influences the value of the parcel; and
(4) any factors, criteria, or conditions relating to influence factors that are promulgated in a rule by the Department.

Establishing Land Value Maps

Each assessing official must obtain copies of maps pertaining to the various areas of the jurisdiction. These maps must be plat maps or recorded plats that have been reproduced from the county's plat mapping system. The maps are necessary to indicate the developed portions of a jurisdiction. The maps should indicate the outlines of the blocks, streets, roads, and alleys, and include the lots and their dimensions. Some organizational ideas for planning the mapping obligation for this function are:

- In a smaller, less populated jurisdiction the number of maps necessary to complete the task of compiling the land value maps could be relatively small. A master jurisdiction map might be included with copies of separate plat map pages for the areas of the jurisdiction which are considered more developed. These developed areas could be a small town or a variety of different platted subdivisions sprinkled throughout the jurisdiction.

- In a medium sized jurisdiction the number of maps increases because the mixture of developed properties increases. A general jurisdiction map would be beneficial to use as an index location system, but the main working maps should be reproduced using each section as the base. Each developed area of the section would have a separate map of the area as recorded in the plat books.

- In a large jurisdiction the map requirements would be limited to the parameters of the existing county system. Normally, these jurisdictions have a sophisticated system in place that identifies a specific portion of the jurisdictions by plat page. The maps necessary to complete the land value map obligation would be at the plat page level.

Many assessing officials begin the land valuation process by first recording the current values on the working copy of the maps. This process develops a picture of the values and their current neighborhood boundaries. These neighborhood boundaries may change as the assessing official analyzes the changing characteristics of established neighborhoods and identifies the developing areas within the jurisdiction. Preliminary neighborhood boundaries may be sketched onto the working boundaries at this time to reflect the assessing official's initial impression of the values within the jurisdiction.

The assessing official can begin the task of analyzing sales information to determine the market value of the land as of ~~March 1, 2011~~January 1st. Sales information of individual properties is derived from sales disclosure forms. These forms are filed with the county at the time a property exchanges hands and a copy for each form has been retained for each transaction since July 1, 1997. The sales disclosure forms should be organized and filed by property location and property class. An analysis of the grouped sales as compared with their map location could influence the assessing official to redraw the preliminary neighborhood boundaries. The objective of this comparison is to refine each neighborhood into a market value range for similar type properties. Each specific neighborhood shall be identified on reproducible maps and have an assigned code number unique to the area.

Once the sales have been grouped, an analysis of the neighborhood is made to determine the land value ratio. This ratio is expressed as a percentage and represents the amount of a sale attributable to the land. The mechanics for determining this ratio are further explained under the ***Allocation Method*** in the Section ***Evaluating Sales Information***. It is advisable that the assessing official start in the areas of the jurisdiction which are clearly of a greater value and analyze the reasons why these values are higher. Once these reasons become apparent, the assessing official can use the distinguishing features as a basis for the further analysis of the entire jurisdiction. This process is necessary because each designated neighborhood within the jurisdiction shall have a land value ratio.

A visual inspection and verification process is required on a representative sample of properties included in each sales grouping. By reviewing the sales disclosures for each neighborhood, the assessing official can select properties for inspection that represent the typical property for the neighborhood. The sales transaction of property should be free of any unique circumstances that would suggest the stated purchase price is not representative of the neighborhood. The visual inspection is necessary to make sure that the assessing official understands the physical aspects of the property at the time of sale. A copy of the property record card, as of the sale date, would serve as the best comparison method. If there are necessary questions raised during the inspection, the assessing official should contact the buyer of the property to ensure that the correct information is captured. The visual inspection of the property also gives the assessing official the opportunity to compare the characteristics of the subject neighborhood against the characteristics of various other neighborhoods.

Each identified neighborhood shall have a representative sample of sales to establish the land value. The representative sample is defined in this section as three percent (3%) of the total number of parcels within the neighborhood. If the number of sales disclosures for the neighborhood is less than the required three percent (3%), the assessing official must contact a local licensed real estate professional about providing a letter of opinion on the value of various parcels located throughout the neighborhood as of ~~March 1, 2011~~January 1st.

The most important issue to consider next is the assessing official's task of establishing the market value for residential, commercial, industrial, and agricultural homesite land as of ~~March 1, 2011~~January 1st. The pricing method and base rate are mathematical functions to arrive at this desired value. As a source of value comparison between neighborhoods, the assessing official shall designate a base lot for each specific neighborhood throughout the jurisdiction. The base lot represents the typical and average characteristics of lots located within the neighborhood. For a homogeneous neighborhood that contains only subdivided lots of 60′ x 132′, the designated base lot is 60′ x 132′. The base lot for a neighborhood comprised of agricultural parcels only is a one (1) acre homesite.

A maximum value variance between substantially similar neighborhoods with the same classification shall not exceed twenty percent (20%). The assessing official shall establish a maximum allowable variance of twenty percent (20%) or less.

Sales disclosure documents and real estate broker's letters of opinion can next be analyzed to determine the actual value of the subject neighborhoods. By applying the established land value ratio to the sales information, the assessing official can determine the amount of sale attributable to land. The value for each sale is compared against the remaining neighborhood sales to determine the appropriate value for the neighborhood. As this comparison is performed for each neighborhood, a final analysis of the neighborhood boundaries is warranted to ensure that the boundaries are correct on each map.

With the neighborhood boundaries finalized and the maps completed with the recorded values, the assessing official can begin the task of calculating the base rates applicable to each neighborhood.

Evaluating Sales Information

When establishing land values throughout the jurisdiction, each assessing official shall evaluate sales information by using the sales comparison method, the abstraction method, or the allocation method. Each method is described below.

The ***sales comparison method*** is one of the most reliable methods of estimating land value. Under this method, the sale prices of similar properties are compared. The greater the number of sales, the more reliable the results. Sales prices might require adjustment to account for differences in the properties compared. Sale prices may be adjusted by a percentage or a specific dollar amount basis. The assessing official should research every market area and base adjustments on measurable market differences in properties. Examples of the adjustment process using the sales comparison method are provided below.

Example 1: A vacant parcel sold for $10,200 in early 2009. The parcel slopes sharply from the street. The developer of the subdivision reports that the parcel sold at a discount of $3,000 to cover the cost of correcting the problem. To make the sale representative of other vacant land in the area, add the amount of the discount to the sales price ($10,200 + $3,000 = $13,200). The cost of the discount added to the land selling price is equal to the true land value.

Example 2: A vacant parcel sold for $10,000 on contract. Information obtained from the real estate broker indicates that the buyer was related to the developer and obtained a 15% discount on the sale. The value of the unimproved lot is 85% of the adjusted sale price. To adjust for the discount, find the sale price without the discount ($10,000 ÷ .85 = $11,765). The cost to improve the land is added to the vacant land price to equal an improved land value.

The ***abstraction method*** is used to determine the indicated value of residential land if the sample of vacant land sales is insufficient for a geographic area. This method of estimating land value is most reliable when a minimum amount of depreciation has occurred on the improvements. The value of land is determined by subtracting the depreciated value of the improvements from the sales price. The result indicates the contribution of the land value to the total sale. An example of the abstraction method is provided below.

Example 3: A residential property sold for $59,500 in January 2009. If the depreciated value of the structures equals $50,300, the indicated value of the improved land is $9,200 ($59,500 - $50,300 = $9,200).

The ***allocation*** or ***percentage of sale*** method is used to determine the indicated value of land if the sample of sales for a neighborhood represents improved properties. This method of estimating land values depends on an analysis of the various neighborhoods to determine the percentage contribution of land to the total sale.

Compare the sale price of vacant land to the sale price of the improved parcels within a homogeneous neighborhood. The resulting ratio is equal to the allocation percentage of sale for the neighborhood. However, before the comparison can be made, adjust the vacant lot sale upward to account for improvements such as utility hook-ups, landscaping, residential driveways, and private walkways. This adjustment is necessary because these appurtenances to the land are valued with the land. Also, the amount of improvement can be expressed as a percentage of the total land value. In the following example, the amount is expressed as a whole dollar development cost.

Example 4: Suppose a vacant land sale for neighborhood #501 is $20,000 and the applicable development costs are $5,000 in January, 2009. Determine an estimate of the applicable percentage ratio by comparing the $25,000 developed land value to the recent neighborhood #501 sale prices of improved properties. For example, if improved properties are selling for $125,000 to $135,000, the estimated percentage of sale range for neighborhood #501 is 18.5% to 20%. The value of a standard lot in neighborhood #501 would be estimated at $25,000. If a neighborhood has no vacant parcels to help determine a developed lot value, the assessing official must begin the process of comparing the subject neighborhood to neighborhoods where the percentage of sale is known. Comparable neighborhoods consist of neighborhoods with similar sale prices and neighborhood characteristics. Once a comparable neighborhood has been established, the percentage of sale ratio is multiplied against the selling prices of the improved parcels to arrive at an estimated land value for the subject neighborhood.

Selecting Unit Values Used for Land Valuation

Unit values or base rates are units of measurement used in the assessment calculation process. The assessing official determines which of the following five types of unit values, described in the sections below, are appropriate for valuing the different types of land in the jurisdiction:

- front foot value
- square foot value
- acreage value
- site value
- unit density

The size, dimensional data available on tax maps or plat maps, methods of comparison used by the typical buyer and seller, and the ease of application should determine the selection of the most applicable pricing method for the neighborhood. It should be stressed that the pricing method for valuing the neighborhood is of less importance than arriving at the correct value of the land as of the valuation date.

Front Foot Value

Front foot value is a whole dollar amount applied to the most desirable frontage of a parcel. For commercial property in a downtown area, front footage along the main street is of primary importance. For a residential parcel in a platted subdivision, front footage along the street is of primary importance. In both cases, the front foot method is appropriate because the front footage of the parcel has the greatest influence on the land's value. Front foot value is the appropriate method when the selling price of similar properties, divided by the amount of frontage is similar. The following example illustrates the relationship between front foot value and selling price.

Example: Parcel A has 100 feet of frontage on Main Street and Parcel B has 50 feet of frontage on Main Street. Both parcels have the same depth. Parcel A sold for $12,000. Parcel B sold for $6,000. To calculate the base rate, divide the sale price of the parcel by the frontage feet:

Parcel A $12,000 ÷ 100′ = $120
Parcel B $6,000 ÷ 50′ = $120

In both cases, the selling price divided by the number of frontage feet equals $120 per front foot. Because the same base rate is obtained on both properties, the assessing official determines that the front foot method is the appropriate land valuation method for these properties.

Square Foot Value

Square foot value is a value applied to each individual square foot of a parcel. The square foot method is used when the selling price divided by the area in square feet for similar properties is similar. The following example illustrates how to use the selling price to determine square foot value.

Example: Parcels C and D both have 100 feet of frontage on Oak Street. Parcel C is 200 feet deep, has an area of 20,000 square feet, and sold for $10,000. Parcel D is 100 feet deep, has an area of 10,000 square feet and sold for $5,000. Calculate the square foot value by dividing the sale price of the parcel by the area of the parcel in square feet:

Parcel C $10,000 ÷ 20,000 = $0.50
Parcel D $5,000 ÷ 10,000 = $0.50

Because the same base rate ($0.50 per square foot) is obtained for both properties, the assessing official determines that the square foot method is the appropriate method for these properties. The front foot value method is not appropriate because the front foot value method produces a front foot value for Parcel C that is twice the front foot value for Parcel D.

Acreage Value

The acreage value method is appropriate where a particular use requires a large amount of land. The most frequent uses of the acreage value method are for:

- agricultural homesites
- rural residential homesites
- rural residential excess acreage
- commercial and industrial land
- irregularly shaped platted lots that are too cumbersome to size.

Site Value

The site value method is applied when characteristics peculiar to a particular parcel distort the value determined using other methods. This value distortion is normally attributed to the parcel's shape or size. The following example illustrates the use of the site value method.

Example: In a neighborhood the standard lot is 50 feet by 120 feet, with a calculated front foot price of $100. The typical lot sells for $5,000. However, Lot #20 is an irregularly shaped lot with dimensions that make it extremely difficult to determine lot size and price. The value estimate for Lot #20 is similar to all other lots in the area, so the site value estimate is recorded at a flat rate of $5,000. In this example the $5,000 site value is equivalent to the base lot value, indicating that in the assessing official's judgment the irregularity of the subject's shape neither enhances nor detracts from the value of the subject in respect to the base lot value.

- Suppose that the irregularity of the subject's shape **enhanced** the value of the subject by 10%. The resulting true tax value for the subject is $5,500 ($5,000 + 10%).

- Suppose that the irregularity of the subject's shape **decreased** the value of the subject by 10%. However, the decrement was off-set by the subject's premium location. In this instance the base lot value of the subject neighborhood decreased. The resulting true tax value for the subject lot is $5,000 ($5,000 = 10% - 10%).

- **Note**: In all cases the starting point is the base lot value of the subject neighborhood, and the treatment of that value as an "estimated value".

Unit Density

Unit density is a value applied to the number of units which can be constructed on a site. It is used when the market indicates that a site is sold on a unit basis, such as an apartment property where the unit of comparison is sale price per buildable apartment.

Valuing Improved Vacant Platted Lots

Platted lots are valued on the basis of improvements made to them. Improvements to the land include, but are not limited to, the cost of:

- a water well
- a septic system
- connecting a structure into a public water and sewage system
- landscaping
- private walkways and residential driveways

The assessing official must survey the jurisdiction to determine the costs of these improvements for each neighborhood as of ~~March 1, 2011~~January 1st. The cost attributable to a water and sewage system should represent depreciated costs of not less than 50% of the total installation cost of each component.

The improved land value estimate represents the cost of vacant land, plus the depreciated cost of a water well and septic system or public utility hook-up fees plus any costs, such as landscaping and private walkways and residential driveways incurred to make the parcel suitable for building. An example of estimating the land value for an individual land sale is provided below.

Example: An 80 feet by 150 feet commercial platted vacant lot was purchased for $30,000. The water well and septic system cost for this particular area is $5,500. The depreciated cost of the water well and septic system is calculated as: (.80 x $5,500) $4,400. The assessor knows that the water well and septic system are relatively new, so the 80% ratio is used. The landscaping cost associated with the parcel is estimated to be $10,000. The cost of the vacant land plus the depreciated cost of the water well and septic system and landscaping attributable to the land equals the value of the improved vacant lot ($30,000 + $4,400 + $10,000 = $44,400).

Assessment of Rights-of-Way to Adjacent Property Holder

Land may not be assessed to an adjacent property holder if it is:

- occupied by, and is within the right-of-way of, a railroad, interurban, or street railway
- within the line of a levee constructed and maintained either by a levee association or under any law of this state
- used and occupied as part of a public drainage ditch, including land that:
- is adjacent to the ditch
- cannot be used for farmland or any other purpose because of a need for access to the ditch
- within a right-of-way that is used and occupied as a public highway.

If the land has not been transferred by deed to a person who holds the land for railroad, interurban, street railway, levee, drainage, or public highway purposes, the land is assessed to the adjacent property owner. However, the assessed value of the land so assessed is deducted from the assessed value of the land assessed to the adjacent property owner. If an assessing official and a landowner fail to agree on the amount of land assessed, the county surveyor must survey the land in question.

Providing General Information on the Property Record Card

Before you provide the information and perform the calculations necessary to value a property, you need to identify the parcel and provide general information about it. The front of the residential, agricultural, and commercial and industrial Property Record Cards provide specific areas for recording information about the parcel's:

- identity
- location
- classification
- ownership
- site characteristics

The steps for recording this information are grouped into the following tasks, described in the sections below:

- Task 1—Record identification and classification data for the parcel.
- Task 2—Record the site characteristics of the parcel.

Task 1—Recording Identification and Classification Data

To record identification and classification data for the parcel, perform these steps:

STEP 1 In the "Parcel number" cell, enter the parcel number used for taxation purposes.

STEP 2 In the "County" cell, enter the county number where the parcel is located.

STEP 3 In the "Jurisdiction" cell, enter the Department of Local Government Finance's assigned number for the jurisdiction where the parcel is located.

STEP 4 *If the parcel is located in a corporation*, enter the Department of Local Government Finance's assigned number for the corporation in the "Corporation" cell.

STEP 5 In the "district cell, enter the Department of Local Government Finance's assigned taxing district number for the location of the subject parcel.

STEP 6 In the "Section and Plat" cell, enter the county code that represents the specific mapped area of the district where the parcel is located. Letters or numbers may be used.

STEP 7 In the "Routing Number" cell, enter the assigned number that matches the parcel's location on a specific map. This number facilitates field inspection.

NOTE**:** If there is more than one property card for the parcel, enter the same routing number on each card.

STEP 8 In the "Neighborhood Code Number" cell, enter the code number assigned by the jurisdiction assessor to the parcel's location.

STEP 9 "Property Class" is an index to identify the class of property for each individual parcel. Enter a one-digit code for the general property class, and a two-digit suffix code for the subclass.

The basis for classification is the predominant current use. All contiguous parcels associated with the main use designation should be coded with the same property subclass codes.

Example: A parcel used for a bank parking lot should have the same property class code of 444 as the parcel containing the bank building. All associated parcel numbers should be listed in a computer accessible memorandum section of the Property Record Card for the main or highest valued parcel. The parcel number of the main or highest valued parcel should likewise be identified on each of the associated parcels. If a parcel is unused, the basis for classification depends on the anticipated use or the use for which the parcel is zoned. When entering the general property class, note that the property class applies to the entire parcel. Therefore, for multiple card parcels, it is necessary to enter the class only on the card numbered "001".

Table 2-1 shows the general property class codes. Table 2-2 shows the two-digit subclass codes that fall within each property class.

Property Class Codes

The following table shows the general property class codes. The second table shows the two-digit subclass codes that fall within each property class.

Table 2-1. Class Codes

This option	Indicates
1	Agricultural taxable land and improvements used primarily for agricultural purposes
2	The legal description is being valued for severed mineral rights at a flat value of sixty dollars ($60) per acre
3	Industrial taxable land and improvements used primarily for manufacturing, processing, or refining foods and materials
4	Commercial taxable land and improvements used for general commercial and recreational purposes
5	Residential taxable land and improvements used primarily for residential purposes
6	Exempt property
8	Taxable land and improvements owned by a public utility company

Table 2-2. Subclass Codes

Class Code 1 Agricultural taxable land and improvements used primarily for agricultural purposes

100 Vacant land **101** Cash grain/general farm **102** Livestock other than dairy and poultry **103** Dairy farm	**104** Poultry farm **105** Fruit & nut farm **106** Vegetable farm **107** Tobacco farm **108** Nursery **109** Greenhouses	**110** Hog farm **111** Beef farm **120** Timber **141** Agricultural land with mobile home	**149** Agricultural land with personal property mobile home **198** Structure on leased land **199** Other agricultural use

Class Code 2 The legal description is being valued for severed mineral rights at a flat value of sixty dollars ($60) per acre

200 Severed mineral rights			

Class Code 3 Industrial taxable land and improvements used primarily for manufacturing, processing, or refining foods and materials

300 Vacant land **309** Parcel classified as vacant but is part of the support land for another parcel **310** Food and drink processing facility **320** Foundries and heavy manufacturing	**330** Medium manufacturing and assembly **340** Light manufacturing and assembly **345** Industrial office	**346** Research and development facility **350** Industrial warehouse **360** Industrial truck terminal	**370** Small shops **380** Mines or quarries~~y~~ **385** Landfill **390** Grain elevator **398** Structure on leased land **399** Other industrial structure

Class Code 4 Commercial taxable land & improvements used for general commercial & recreational purposes

- **400** Vacant land
- **401** 4 to 19 family apartments
- **402** 20 to 39 family apartments
- **403** 40 or more family apartments
- **409** Parcel classified as vacant but is part of the support land for another structure
- **410** Motels or tourist cabins
- **411** Hotels
- **412** Nursing homes and private hospitals
- **415** Mobile home parks
- **416** Commercial camp grounds
- **419** Other commercial housing
- **420** Small detached retail of less than 10,000 square feet
- **421** Supermarkets
- **422** Discount and junior department stores
- **424** Full line department stores
- **425** Neighborhood shopping center (Strip center)
- **426** Community shopping center
- **427** Regional shopping center
- **428** Convenience market
- **429** Other retail structures
- **430** Restaurant, café~~eteria~~, or bar
- **431** Franchise-type restaurant
- **435** Drive-in restaurant
- **439** Other food service
- **440** Dry clean plant or laundry
- **441** Funeral home
- **442** Medical clinics or offices
- **443** Drive-up/walk-up bank only
- **444** Full service banks
- **445** Savings and loans
- **447** Office building (1 or 2 story)
- **448** Office building (O/T 47 walk-up)
- **449** Office building (O/T 47 elevator)
- **450** Convenience market with gasoline sales
- **451** Convenience market / franchise-type restaurant with gasoline sales
- **452** Auto ~~Service~~ service station
- **453** Car washes
- **454** Auto sales and service
- **455** Commercial garage
- **456** Parking lot or structure
- **460** Theaters
- **461** Drive-in theaters
- **462** Golf range or miniature course
- **463** Golf course
- **464** Bowling alley
- **465** Lodge hall
- **466** Amusement park
- **467** Health club
- **468** Ice rink
- **469** Riverboat gaming resort
- **480** Commercial warehouse
- **481** Commercial mini-warehouse
- **482** Commercial truck terminals
- **490** Marine service facility
- **495** Marina
- **496** Marina – small boats
- **498** Structure on leased land
- **499** Other commercial structures

Class Code 5 Residential taxable land and improvements used primarily for residential purposes

- **500** Vacant platted lot
- **501** Vacant unplatted land of 0 to 9.99 acres
- **502** Vacant unplatted land of 10 to 19.99 acres
- **503** Vacant unplatted land of 20 to 29.99 acres
- **504** Vacant unplatted land of 30 to 39.99 acres
- **505** Vacant unplatted land of 40 or more acres
- **509** Parcel classified as vacant but is part of the support land for another parcel
- **515** One family dwelling on unplatted land of 40 or more acres
- **520** Two family dwelling on a platted lot
- **521** Two family dwelling on unplatted land of 0 to 9.99 acres
- **522** Two family dwelling on unplatted land of 10 to 19.99 acres
- **523** Two family dwelling on unplatted land of 20 to 29.99 acres
- **532** Three family dwelling on unplatted land of 10 to 19.99 acres
- **533** Three family dwelling on unplatted land of 20 to 29.99 acres
- **534** Three family dwelling on unplatted land of 30 to 39.99 acres
- **535** Three family dwelling on unplatted land of 40 or more acres
- **540** Mobile or manufactured home on a platted lot
- **545** Mobile or manufactured home on unplatted land of 40 or more acres
- **550** Condominium unit on a platted lot
- **551** Condominium unit on unplatted land of 0 to 9.99 acres
- **552** Condominium unit on unplatted land of 10 to 19.99 acres
- **553** Condominium unit on unplatted land of 20 to 29.99 acres

Continued on next page

Class Code 5 *continued*

510 One family dwelling on a platted lot

511 One family dwelling on unplatted land of 0 to 9.99 acres

512 One family dwelling on unplatted land of 10 to 19.99 acres

513 One family dwelling on unplatted land of 20 to 29.99 acres

514 One family dwelling on unplatted land of 30 to 39.99 acres

524 Two family dwelling on unplatted land of 30 to 39.99 acres

525 Two family dwelling on unplatted land of 40 or more acres

530 Three family dwelling on a platted lot

531 Three family dwelling on unplatted land of 0 to 9.99 acres

541 Mobile or manufactured home on unplatted land of 0 to 9.99 acres

542 Mobile or manufactured home on unplatted land of 10 to 19.99 acres

543 Mobile or manufactured home on unplatted land of 20 to 29.99 acres

544 Mobile or manufactured home on unplatted land of 30 to 39.99 acres

554 Condominium unit on unplatted land of 30 to 39.99 acres

555 Condominium unit on unplatted land of 40 or more acres

556 Condominium dwelling (row type)

557 Condominium c~~C~~ommon areas~~ parcel~~

558 Condominium master card

590 Personal property mobile or manufactured home on platted property

591 Personal property mobile or manufactured home on unplatted land

598 Structure on leased land

599 Other residential structures

Class Code 6 Exempt property

600 Exempt property owned by the United States of America

610 Exempt property owned by the State of Indiana

620 Exempt property owned by a county

621 Exempt property certified for treasurer's sale

622 Exempt property held for resale

630 Exempt property owned by a ~~jurisdiction~~township

640 Exempt property owned by a municipality

645 Exempt property owned by a municipal housing authority

650 Exempt property owned by a board of education

660 Exempt property owned by a park district

661 Exempt property owned by a conservancy district

662 Exempt property owned by a sanitary district

665 Exempt property owned by a public library

669 Other exempt property owned by a governmental unit

670 Exempt property owned by a private academy or college

680 Exempt property owned by a charitable organization that is granted an exemption

685 Exempt property owned by a religious organization that is granted an exemption

686 Church, chapel, mosque, synagogue, tabernacle, or temple that is granted an exemption

690 Exempt property owned by a cemetery organization that is granted an exemption

699 Other exempt property owned by an organization that is granted an exemption

Class Code 8 Taxable land and improvements owned by a public utility company			
800 Locally assessed vacant utility land-commercial **805** Locally assessed vacant utility land-industrial **810** Locally assessed property owned by a bus company-commercial **811** State assessed property owned by a bus company **815** Locally assessed property owned by a bus company-industrial **820** Locally assessed property owned by a light, heat, or power company-commercial **821** State assessed property owned by a light, heat, or power company that constitutes part of any right-of-way of the light, heat, or power company	**825** Locally assessed property owned by a light, heat, or power company-industrial **830** Locally assessed property owned by a pipeline company-commercial **831** State assessed property owned by a pipeline company that constitutes a part of any right-of-way of the distribution system –**835** Locally assessed property owned by a pipeline company-industrial **840** Locally assessed property owned by a railroad company-commercial **841** State assessed operating property owned by a railroad company	**845** Locally assessed property owned by a railroad company-industrial **850** Locally assessed property owned by a sewage company-commercial **851** State assessed property owned by a sewage company that constitutes a part of any right-of-way of the collection system **855** Locally assessed property owned by a sewage company-industrial **860** Locally assessed property owned by a telephone, telegraph, or cable company-commercial	**861** State assessed property owned by a telephone, telegraph, or cable company that constitutes a part of any right-of-way of the distribution system **865** Locally assessed property owned by a telephone, telegraph, or cable company-industrial **870** Locally assessed property owned by a water distribution company-commercial **871** State assessed property owned by a water distribution company that constitutes a part of any right-of-way of the distribution system **875** Locally assessed property owned by a water distribution company-industrial

NOTE: Under class code 8, subclass codes 21, 31, 41, 51, 61, and 71 have a zero value at the local level.

STEP 10 In the "Property Address" cell, enter the street address of the parcel (not the parcel's legal description).

NOTE: You must enter or correct the address in the field.

STEP 11 In the left blank of the "Card No." cell, enter the number for the Property Record Card. For example, if this card is the first card for the parcel, enter 001, if it is the second card, enter 002, and so forth.

NOTE**:** When you have completed all of the Property Record Cards for the parcel, enter the total number of cards in the right blank of the "Card No." cell. For example, the third card of four cards is labeled "Card No. 003 of 004."

STEP 12 In the "Transfer of Ownership" section, record ownership information that is subsequent to the ownerships preprinted on the Property Record Card. Record information about each grantee and transfer in a separate row:

a. In the "Date" column, enter the date of the parcel transfer.

b. In the "Grantee" column, enter the name and address of the party to whom the parcel was transferred.

c. In the "Sale Price" column, enter the sale price as indicated on the Sales Disclosure Form.

d. In the "Owner Occupied" column, on the agricultural or residential property record card, place a check in the "Yes" box if owner occupied, or place a check in the "No" box if not owner occupied.

Task 2—Recording the Site Characteristics

To record the parcel's general site characteristics, perform these steps:

STEP 1 In the "Topography" section, place a check in the check boxes for the terms that describe the terrain of the site in terms of its suitability for use. Table 2-3 describes the topography options.

Table 2-3. Topography Options

This option	Indicates a site
Level	Approximately at street level and relatively flat.
Level and High	Higher than street level, but relatively flat and otherwise appearing suitable for use with minimal extraordinary site preparation.
High	Higher than street level and sloping enough to require extraordinary site preparation. Undeveloped land checked "High" may require a value adjustment. Improved land may require a value adjustment depending on the extent to which the detriment to value remains.
Low	Lower than street level and sloping enough to require extraordinary site preparation.
High and Low	Exhibiting both "High" and "Low" characteristics.
Rolling	With undulating terrain that may require extraordinary site preparation, depending on the use of the site.
Swampy	Subject to holding water and not readily drainable. If this condition applies to a portion of the parcel, insert "p" (for part) instead of a check, and place checks in the check boxes that describe the rest of the site.

STEP 2 In the "Public Utilities" section, place a check in the check boxes for the site services provided by public utility companies and governmental jurisdictions, such as water, sewer, gas and electricity. Follow these guidelines:

- Place a check in the check boxes for each of the services provided, whether or not the service is being used.
- If all of the utilities are available, place a check in the "All" check box instead of checking the individual items.

STEP 3 In the "Street or Rd." section, place a check in the check boxes for the characteristics of the primary fronting street or road, or the street or road that provides the most immediate access. Table 2-4 describes the street or road options.

Table 2-4. Street or Road Options

This option	Indicates
Paved	A concrete, blacktop, or comparably improved street or road
Unpaved	A dirt or comparably unimproved street or road
Proposed	A street or road does not exist, but is planned and approved for the future
Sidewalk	The parcel is served by a paved sidewalk available for public use
Alley	The parcel is served by an alley

STEP 4 In the "Neighborhood" section, place a check in the check box for the option that best describes the life cycle stage most characteristic of the neighborhood where the parcel is located. Table 2-5 describes the neighborhood options.

Table 2-5. Neighborhood Options

This option	Indicates
Improving	A stage of development evidenced by increasing desirability
Static	A condition of equilibrium evidenced by little change
Declining	A stage of disintegration evidenced by decreasing desirability
Blighted	A marked decline characterized by structural deterioration and environmental deficiencies

Valuing Platted Lots

This section describes how to value platted lots. Before you can value platted lots, you need to understand the following topics, which are addressed in this section:

- how the assessing official establishes base rates for platted lots
- how to establish the effective frontage and depth for a platted lot
- how to determine the depth factor for a platted lot
- how to determine any influence factors for a platted lot.

Establishing Base Rates for Platted Lots

Using the neighborhood information contained on the land value maps, the assessing official calculates the indicated front foot values for each platted lot in a neighborhood by performing the steps below:

STEP 1 Determine the value of the lot from the analyzed information on the map.

STEP 2 Determine the depth factor for the lot. Instructions are provided in the section ***Determining Depth Factors for Platted Lots*** in this chapter.

STEP 3 To determine the adjusted value, divide the value of the lot (determined in Step 1) by the depth factor for the lot (determined in Step 2):

Adjusted value = Lot value ÷ Depth factor

STEP 4 Determine the effective front footage of the lot. Instructions are provided in the section ***Establishing the Effective Frontage and Depth of Platted Lots*** in this chapter.

STEP 5 To obtain the indicated front foot value for the lot, divide the adjusted value (obtained in Step 3) by the effective front footage of the lot (determined in Step 4):

Indicated front foot value = Adjusted value ÷ Effective front footage

The assessing official then uses the indicated front foot values calculated for the lots in a neighborhood to determine the base rate per front foot for the area. The following examples illustrate how to calculate and analyze indicated front foot values. As you review these examples, keep in mind that the process of determining front foot values and base rates often is not exact. It is exact only when the selling price is known. By analyzing sales disclosure forms and estimations of value from the neighborhood, the assessor can determine a 2011 land value estimate to use.

Example 1: Neighborhood #1 is platted with all lots measuring 60 feet by 120 feet. Since the standard depth for the area is 120 feet, the depth factor is 1.00. The estimates from the sales data sheet indicate that the value for an improved lot is approximately $6,000. The calculation for the indicated front foot value is:

$6,000 ÷ 1.00 = $6,000 ÷ 60′ = $100.

Because all of the lots in this neighborhood are the same, the base rate in Neighborhood #1 is $100 per front foot.

Example 2: Neighborhood #2 has a mixture of various sized lots with the typical lot identified as 60 feet by 150 feet. The standard depth is 150 feet, and the assessor has determined the base lot value to be $9,000.

- Lot #1 measures 60 feet by 150 feet. Therefore, it's depth factor is 1.00. It is valued at $9,000. Its indicated front foot rate is:
$9,000 ÷ 1.00 = $9,000 ÷ 60′ = $150.
- Lot #12 measures 70 feet by 160 feet. Its depth factor is 1.03. It is valued at $10,200. Its indicated front foot rate is:
$10,200 ÷ 1.03 = $9,903 ÷ 70′ = $141.47.
- Lot #23 measures 80 feet by 200 feet. Its depth factor is 1.11. It is valued at $12,200. Its indicated front foot rate is:
$12,200 ÷ 1.11 = $10,991 ÷ 80′ = $137.39.

In Neighborhood #2, the range of values is somewhat narrow. The assessing official's first obligation is to establish a base value and rate for the typical lot. In this example, the typical lot is 60 feet by 150 feet, with a base lot value of $9,000 and an indicated base rate of $150. This base rate is the rate that should be established for Neighborhood #2. The lots that are different from the base lot should be analyzed for specific influence factors. The criteria necessary to identify specific influence factors should be determined by assessing official.

Example 3: Overlook Valley is a platted subdivision with some lots on a bluff overlooking a lake. Other lots are not on the lake. During the analysis of recent sales, the assessor finds three distinct land value areas within the subdivision. Lot #1 through Lot #25 overlook the lake and have an analyzed land value of $60,000. Lot #26 through Lot #56 are located across the street from the lake lots and have an analyzed land value of $35,000. Lot #57 through Lot #80 are located nearest the state highway and have an analyzed land value of $20,000. The typical lot size in the subdivision is 100 feet by 120 feet. However, Lot #1 through Lot #25 are 80 feet by 175 feet.

The assessing official has decided that the difference in base lot size and base lot value is significant and warrants the division of the subdivision into two separate neighborhoods. Lot #1 through Lot #25 are designated as Neighborhood #3. Lot #26 through Lot #80 are designated as Neighborhood #4.

- Neighborhood #3 has a base lot size of 80 feet by 175 feet. The standard lot for the area is 175 feet and the depth factor is 1.00. The indicated front foot rate is: $60,000 ÷ 1.00 = $60,000 ÷ 80′ = $750.00.
- Neighborhood #4 has a base lot size of 100 feet by 120 feet. The analyzed land values of the neighborhood range from $35,000 to $20,000. The depth factor for Neighborhood #4 is 1.00. For Lot # 26 through Lot #56 with lots valued at $35,000, the indicated front foot rate is:

$35,000 ÷ 1.00 = $35,000 ÷ 100′ = $350.00.

For Lot #57 through Lot #80 with lots valued at $20,000, the indicated front foot rate is:

$20,000 ÷ 1.00 = $20,000 ÷ 100′ = $200.00.

In this example, the assessor developed a range of base rates for Neighborhood #4—$200 for the low rate and $350 for the high rate.

Establishing the Effective Frontage and Depth of Platted Lots

The front foot method is the method generally used to value platted lots. When determining a lot's size using the front foot method, the following criteria must be met:

- Prior to establishing the size of the lot, the scale of the plat must be established.
- The effective frontage and depth must form right angles.
- The depth lines must be parallel to each other.
- The frontage line must be perpendicular to the depth lines.

Of course, actual lots do not necessarily meet these criteria. This section discusses how to calculate the effective frontage and effective depth of actual lots in order to calculate land value using the front foot method. Sample lot shapes are shown to help guide you. When you calculate the effective frontage and depth for an irregularly shaped lot, you should show your calculations on the property record card or an attachment.

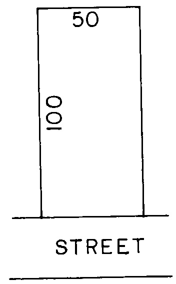
Type 1 Lot

The Type 1 lot is known as a 100% lot. The characteristics of a 100% lot are:

- The vertical lines of the lot form right angles with the horizontal lines of the lot.

- There are no lines in the lot that do not form a 90° angle.
- The narrowest portion of this type of lot is usually the frontage.

Example: The lot shown below has an actual frontage of 50 feet, an effective frontage of 50 feet, and an effective depth of 100 feet.



1

Figure 2-1. Example of a 100% Platted Lot

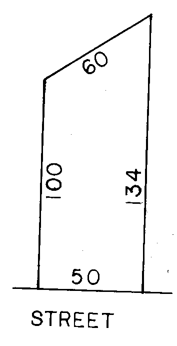
Type 2 Lot

The Type 2 lot is similar to a 100% lot, except that the rear line of the lot is not perpendicular to the depth lines. The actual and effective frontage are the same. To determine the effective depth of this type of lot, perform the following steps:

STEP 1 Add the length of the two sides.

STEP 2 Divide the total by two to determine the average depth.

Example: The lot shown below has an actual frontage of 50 feet, an effective frontage of 50 feet, and an effective depth of 117 feet (100′ + 134′ = 234′ ÷ 2 = 117′).



2

Figure 2-2. Example of a Type 2 Platted Lot

Type 3 Lot

For the Type 3 lot, the frontage is the line that is perpendicular to the depth lines. For this type of lot, you must draw additional lines (shown as dashed lines in the example) to establish an accurate effective depth. Use of the 100 foot side line as the depth fails to account for the rear portion of the lot. Therefore, you must draw an additional depth line (the dashed line perpendicular to the frontage).

To find the effective depth of the lot, perform the following steps:

STEP 1 Calculate the average depth of each section.

STEP 2 Calculate the width percentage of each section to the total width of the lot.

STEP 3 Multiply the width percentage for each section calculated in Step 2 by the average length of each section.

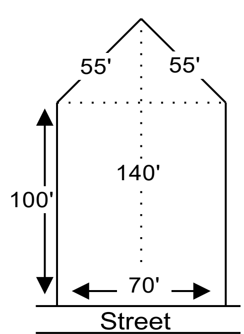
STEP 4 Add the results for each section calculated in Step 3 to determine the weighted average length of the subject lot.

Example: The lot shown in below demonstrates how to draw additional depth lines. In this case only one additional depth line is necessary. The lot has an actual frontage of 70 feet (two sections of 35 feet), an effective frontage of 70 feet (two sections of 35 feet), and an effective depth of 120 feet.

Average depth Section 1	= 100′ + 140′ = 240′ ÷ 2 = 120′
Average depth Section 2	= 100′ + 140′ = 240′ ÷ 2 = 120′
Width % Section 1	= 35′ ÷ 70′ = .5 or 50%
Width % Section 2	= 35′ ÷ 70′ = .5 or 50%
Width % x Avg Length Section 1	= .50 x 120′ = 60′
Width % x Avg Length Section 2	= .5 x 120′ = 60′
Effective depth	= 60′ + 60′ = 120′

Follow these guidelines when drawing additional depth lines to establish an accurate effective depth:

- Draw lines for establishing depth perpendicular to the frontage line.
- Draw these parallel lines with equal increments between them.
- Draw the lines to scale to make computation easier.



3

Figure 2-3. Example of a Type 3 Platted Lot

Type 4 Lot

The Type 4 lot is a more complicated variation of the lot shown in the prior table. The shape of this lot requires more depth lines in order to calculate the effective depth. Notice that the depth lines meet the criteria described in the previous section--they are perpendicular to the frontage, parallel to each other, drawn to scale.

The example lot has:

- an actual frontage of 80 feet (four sections of 20 feet)
- an effective frontage of 80 feet (four sections of 20 feet)
- an effective depth of 88 feet.

Average depth Section 1	=	70′	+	80′	=	150′	÷	2	=	75′
Average depth Section 2	=	80′	+	90′	=	170′	÷	2	=	85′
Average depth Section 3	=	90′	+	100′	=	190′	÷	2	=	95′
Average depth Section 4	=	100′	+	90′	=	190′	÷	2	=	95′

Width % Section 1	=	20′	÷	80′	=	.25	or	25%
Width % Section 2	=	20′	÷	80′	=	.25	or	25%
Width % Section 3	=	20′	÷	80′	=	.25	or	25%
Width % Section 4	=	20′	÷	80′	=	.25	or	25%

Width % x Avg. Length Section 1	=	.25	x	75′	=	18.75′
Width % x Avg. Length Section 2	=	.25	x	85′	=	21.25′
Width % x Avg. Length Section 3	=	.25	x	95′	=	23.75′
Width % x Avg. Length Section 4	=	.25	x	95′	=	23.75′

Effective depth	=	18.75′	+	21.25′	+	23.75′	+	23.75′	=	87.50′

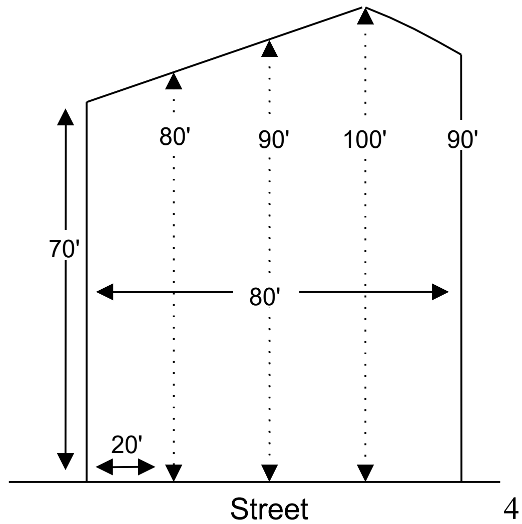


Figure 2-4. Example of a Type 4 Platted Lot

Type 5 Lot

The Type 5 lot, shown below, is a right triangle with the base of the triangle located at the street. There are only two perpendicular lines. When any lot or portion of a lot forms a right triangle, and the base is on the street, use the following guidelines:

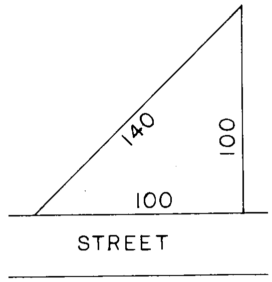
- Apply a percentage factor to establish the effective frontage.
- The actual frontage is the line that runs parallel to the street.
- Use a factor of 65% to determine the effective frontage.
- The depth is the line that is perpendicular to the frontage.

To calculate the effective frontage of such a lot, multiply the actual frontage by the percentage factor:

Effective frontage = Actual frontage x Percentage factor

The example lot has:

- an actual frontage of 100 feet
- an effective frontage of 65 feet (100′ x .65 = 65′)
- an effective depth of 100 feet.



5

Figure 2-5. Example of a Type 5 Platted Lot

Type 6 Lot

The Type 6 lot is a right triangle with the apex of the triangle located at the street. There are only two perpendicular lines. When any lot, or a portion of a lot, forms a right triangle, and the apex is on the street:

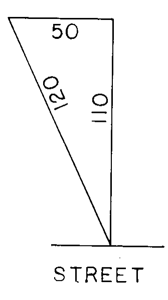
- Apply a percentage factor to establish the effective frontage.
- The actual frontage is zero.
- Use a factor of 35% to determine the effective frontage.
- The depth is the line that is perpendicular to the frontage.

To calculate the effective frontage, multiply the actual length of the rear line by the percentage factor:

Effective frontage = Rear line x Percentage factor

The example lot has:

- an actual frontage of 0 feet
- an effective frontage of 18 feet (50′ x .35 = 17.5′)
- an effective depth of 110 feet.



6

Figure 2-6. Example of a Type 6 Platted Lot

Type 7 Lot

In the Type 7 lot, the width lines are parallel. However, the depth lines are not parallel to each other and are not perpendicular to the frontage line. In such a case, first draw depth lines that are parallel to the frontage and to scale. Drawing depth lines results in the creation of three figures within this lot—two right triangles with the bases of both located on the street and one 100% lot.

To calculate the effective frontage of such a lot, perform these steps:

STEP 1 To determine the actual frontage of the two triangles, subtract the width of the 100% lot from the actual front footage:

Actual frontage of triangles = Actual frontage – Width of 100% lot

STEP 2 To determine the effective frontage of the two triangles, multiply the actual frontage of the triangles by the percentage factor of 65%:

Effective frontage of triangles = Actual frontage of triangles x .65

STEP 3 To determine the effective frontage of the lot, add the effective frontage of the triangle and the effective frontage of the 100% lot:

Effective frontage of lot = Effective frontage of triangles + Effective frontage of 100% lot

The example lot has:

- an actual frontage of 140 feet
- an effective frontage of 112 feet (140′ – 60′ = 80′ x .65 = 52′ + 60′ = 112′)
- an effective depth of 105 feet.

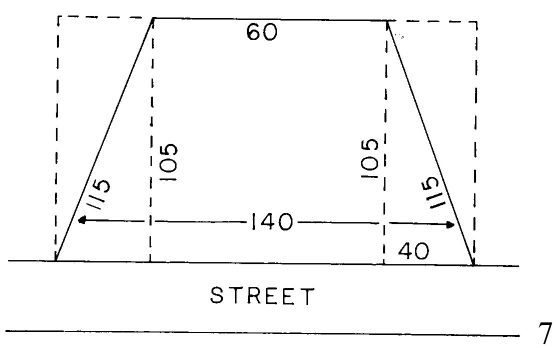


Figure 2-7. Example of a Type 7 Platted Lot

Type 8 Lot

The Type 8 lot is the reverse of the Type 7 lot. The width lines are parallel, but the longest width is at the rear. The depth lines are not parallel to each other and not perpendicular to the frontage line.

In such a case, first draw depth lines that are parallel to the frontage and to scale. Drawing depth lines creates three figures within the lot—two triangles with the apex on the street and one 100% lot. To calculate the effective frontage of such a lot, perform these steps:

STEP 1 _To determine the actual frontage of the two triangles, subtract the width of the 100% lot from the actual width of the lot at its widest section:

Actual frontage of triangles = Actual frontage – Width of 100% lot

STEP 2 To determine the effective frontage of the two triangles, multiply the width of the triangles by the percentage factor of 35%:

Effective frontage of triangles = Actual frontage of triangles x .35

STEP 3 _To determine the effective frontage of the lot, add the effective frontage of the triangles and the effective frontage of the 100% lot:

Effective frontage of lot = Effective frontage of triangles + Effective frontage of 100% lot

The example lot has:

- an actual frontage of 50 feet
- an effective frontage of 68 feet (100′ – 50′ = 50′ x .35 = 17.5′ + 50′ = 67.5′)
- an effective depth of 105 feet.

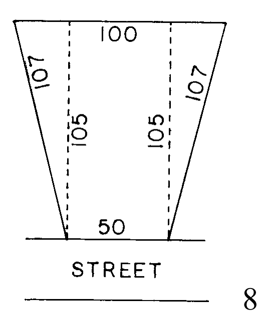


Figure 2-8. Example of a Type 8 Platted Lot

Type 9 Lot

The lot shown below does not have any two lines perpendicular or parallel. The line that is parallel to the street is the frontage. For such a lot, use the frontage line to square the lot. Draw depth lines perpendicular to the frontage and to scale. Also, draw a width line parallel to the frontage and perpendicular to the depth lines. Drawing the dashed lines creates four figures.

To calculate the ***effective depth*** of this type of lot, perform the following steps:

STEP 1 _Add the length of the two depth lines.

STEP 2 _Divide the total by two to determine the average depth.

To calculate the ***effective frontage***, perform the following steps:

STEP 1 _To calculate the effective front footage of the triangle with the apex at the rear of the lot, multiply the length of the base of the triangle by the percentage factor of 65%:

Effective frontage of triangle = Length of base of triangle x .65

STEP 2 _To calculate the effective front footage of the triangle with the apex at the front of the lot, multiply the length of the base of the triangle by the percentage factor of 35%:

Effective frontage of triangle = Length of base of triangle x .35

STEP 3 _To calculate the effective front footage of the lot, add the effective front footage of the 100% lot to the effective front footage of the two triangles:

Effective frontage of lot = Effective frontage of triangles + Effective Frontage of 100% lot

The example lot has:

- an actual frontage of 130 feet
- an effective frontage of 132 feet
((20′ x .65 = 13′) + (25′ x .35 = 8.75′) = 21.75′ + 110′ = 131.75′))
- an effective depth of 95 feet (100 + 90 = 190 ÷ 2).

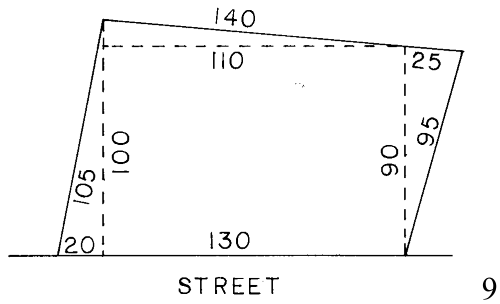


Figure 2-9. Example of a Type 9 Platted Lot

Type 10 Lot

The Type 10 lot is a double entry lot. The lines are perpendicular and parallel. By drawing a dashed line, two figures are formed within the lot. For this type of lot, record two frontages and two depths. Determine the effective frontage and effective depth of each area of the lot as you would for a 100% lot.

The left portion of the example lot has:

- an actual frontage of 50 feet
- an effective frontage of 50 feet
- an effective depth of 100 feet.

The right portion of the lot has:

- an actual frontage of 20 feet
- an effective frontage of 20 feet
- an effective depth of 140 feet.

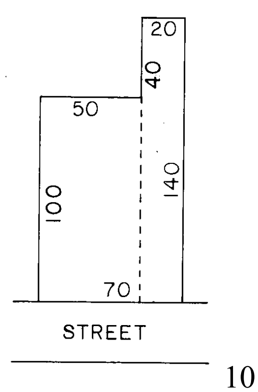


Figure 2-10. Example of a Type 10 Platted Lot

Type 11 Lot

Lot 2 in the figure below is a double entry lot. It differs from the previous example because it has a 50 feet by 50 feet portion at the rear of Lot 3 that has no street frontage. This area is called a rear lot.

The rear portion of Lot 2 (the rear lot), located behind Lot 3, has:

- an actual frontage of 0 feet
- an effective frontage of 50 feet
- an effective depth of 50 feet.

The left portion of Lot 2 (the front lot) has:

- an actual frontage of 50 feet
- an effective frontage of 50 feet
- an effective depth of 200 feet.

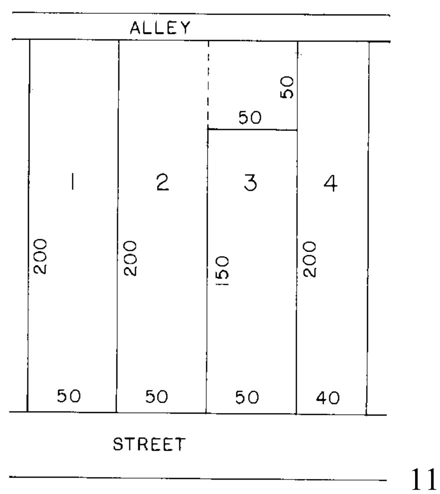


Figure 2-11. Example of a Type 11 Platted Lot

Type 12 Lot

The Type 12 lot is a cul-de-sac lot. To determine the ***effective frontage*** of such a lot, follow these steps:

STEP 1 _Establish the gross width of the lot by finding and measuring the widest part of the lot (185 feet in the example).

STEP 2 _Draw lines for a 100% lot so that it encompasses the area most likely to include the dwelling.

STEP 3 _Draw and measure lines perpendicular to the gross width lines and to scale. Determine the effective frontage of the 100% lot.

STEP 4 The remainder of the lot forms two triangles with their apex on the street. To determine the effective frontage of the remainder of the lot, subtract the width of the 100% lot from the gross width line of the lot and multiply by a percentage factor of .35:

Effective frontage of remainder = (Gross width line of lot) – (Width of100% lot) x .35

STEP 5 To calculate the effective frontage of the lot, add the width of the 100% lot to the effective frontage of the remainder of the lot:

Effective frontage of lot = Width of 100% lot + Effective frontage of remainder

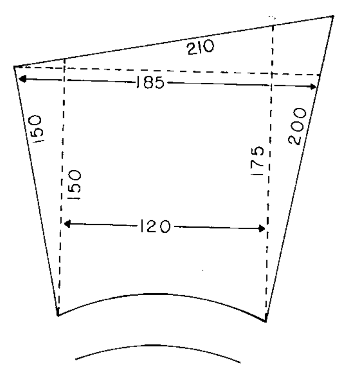
To determine the ***effective depth*** of the lot, follow these steps:

STEP 1 Add the length of the two depth lines.

STEP 2 Divide the total by two to determine the average depth.

The example lot has:

- an actual frontage of 120 feet
- an effective frontage of 143 feet (The gross width is 185 feet and the width of the 100% lot is 120 feet.)
(185′ – 120′ = 65′ x .35 = 22.75′ + 120′ = 142.75′).
- an effective depth of 163 feet (150′ + 175′ = 325′ ÷ 2 = 162.5′).



12

Figure 2-12. Example of a Type 12 Platted Lot

Determining Depth Factors for Platted Lots

Each assessing official must designate the base lot size for each neighborhood identified on the land value map. If the majority of the lots are platted at 50 feet by 150 feet, the base lot size for the area is 50 feet by 150 feet. The establishment of the base lot creates the standard against which all other lots within the neighborhood are compared.

The depth factor is a multiplier that you apply to a unit land value to adjust the value of a particular lot to account for the depth of the lot. The depth table adjusts the lot value of those lots that have either less depth or more depth than the standard established for the neighborhood. The depth tables let you select the appropriate depth factor for a lot. Select the depth table corresponding to the standard lot depth for the neighborhood to determine the appropriate depth factor for a lot.

The process for determining the depth factor of a front lot is different from the process of determining the depth factor for a rear lot.

To determine the depth factor for a ***front lot***, perform the following steps:

STEP 1 Determine the effective depth of the entire lot.

STEP 2 In Table 2-6 through Table 2-8, locate the lot depth table that corresponds to the standard lot depth determined for the neighborhood**.**

STEP 3 In the "Depth" column in the selected depth table, locate the row corresponding to the effective depth of the lot (in feet).

STEP 4 Find the intersection of the selected row (effective depth) and the "Factor" column. Note the number—the depth factor for the lot.

The depth factor for the ***rear lot*** must be manually entered. To determine the depth factor of a ***rear lot***, perform the following steps:

STEP 1 Determine the overall depth of the lot by measuring from the street to the rear of the rear lot. If you have not already done so, determine the effective depth of the front lot.

STEP 2 In Table 2-6 through Table 2-8, locate the lot depth table that corresponds to the standard lot depth determined for the neighborhood.

STEP 3 In the "Depth" column in the selected depth table, locate the overall depth of the lot.

STEP 4 Find the intersection of the selected row (overall depth) and the "Factor" column. Note the number that you find—the overall depth factor.

STEP 5 In the selected depth table, locate the effective depth of the front lot.

STEP 6 Find the intersection of the selected row (effective depth of the front lot) and the "Factor" column. Note the number—the front lot depth factor.

STEP 7 _To determine the depth factor of the rear lot, subtract the front lot depth factor (determined in Step 6) from the overall depth factor (determined in Step 4):

Rear lot depth factor	=	Overall depth factor	-	Front lot depth factor

To use the depth factor to calculate the value of a parcel that has a depth different from the standard depth in the area, multiply the base rate by the depth factor:

Adjusted rate = Base rate x Depth factor

Example 1: The standard lot for Neighborhood #6 is 100 feet by 150 feet deep. Lot #1 is 100 feet wide by 125 feet deep. The base rate in the area is $100. In the lot depth table for 150 feet standard depth, locate 125 feet and the corresponding depth factor (.92). To determine the adjusted value of Lot #1, multiply the base rate by the depth factor ($100 x .92 = $92). Then, multiply the adjusted rate by the front footage ($92 x 100′ = $9,200).

Example 2: Lot #10 is located in Neighborhood #6 and is 100 feet by 150 feet. It is considered a rear lot because it sits directly behind Lot #1 and has no street access. The overall depth of both Lot #1 and Lot #10 is 300 feet. In the lot depth table for 150 feet standard depth, locate 300 feet and the corresponding depth factor (1.16). The depth factor for Lot #10 represents the difference between the overall depth factor (1.16) and the depth factor (.92) of the front lot. The calculated depth factor (1.16 - .92 = .24) is the depth factor for Lot #10. To determine the adjusted value of Lot #10, multiply the base rate by the depth factor ($100 x .24 = $24). Then, multiply the adjusted rate by the front footage ($24 x 100’ = $2,400).

Note: If the depth of the subject lot lies between two of those published on the chart, choose the lower depth factor of the two.

Table 2-6. Lot Depth Tables (100 and 120 Feet Standard Depth)

100 Feet Standard Depth							
Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
1	.07	51	.74	101	1.00	151	1.14
2	.09	52	.75	102	1.01	152	1.15
3	.11	53	.75	103	1.01	153	1.15
4	.13	54	.76	104	1.01	154	1.15
5	.15	55	.77	105	1.01	155	1.15
6	.17	56	.78	106	1.02	156	1.15
7	.19	57	.78	107	1.02	157	1.16
8	.21	58	.79	108	1.02	158	1.16
9	.23	59	.79	109	1.03	159	1.16
10	.25	60	.80	110	1.03	160	1.16
11	.27	61	.81	111	1.03	161	1.16
12	.29	62	.81	112	1.03	162	1.17
13	.31	63	.82	113	1.04	163	1.17
14	.33	64	.82	114	1.04	164	1.17
15	.35	65	.83	115	1.04	165	1.17
16	.37	66	.84	116	1.05	166	1.17
17	.38	67	.84	117	1.05	167	1.17
18	.40	68	.85	118	1.05	168	1.18
19	.41	69	.85	119	1.06	169	1.18
20	.43	70	.86	120	1.06	170	1.18
21	.44	71	.87	121	1.06	175	1.18
22	.46	72	.87	122	1.07	180	1.19
23	.47	73	.88	123	1.07	185	1.20
24	.49	74	.88	124	1.07	190	1.20
25	.50	75	.89	125	1.08	195	1.21
26	.51	76	.89	126	1.08	200	1.21
27	.52	77	.90	127	1.08	205	1.21
28	.53	78	.90	128	1.08	210	1.21
29	.54	79	.91	129	1.09	215	1.21
30	.55	80	.91	130	1.09	220	1.22
31	.56	81	.92	131	1.09	225	1.22
32	.57	82	.92	132	1.10	230	1.22
33	.58	83	.93	133	1.10	235	1.22
34	.59	84	.93	134	1.10	240	1.23
35	.60	85	.94	135	1.10	250	1.23
36	.61	86	.94	136	1.11	260	1.24
37	.62	87	.95	137	1.11	270	1.24
38	.63	88	.95	138	1.11	280	1.25
39	.64	89	.96	139	1.12	290	1.25
40	.65	90	.96	140	1.12	300	1.26
41	.66	91	.96	141	1.12	310	1.26
42	.67	92	.97	142	1.12	320	1.27
43	.67	93	.97	143	1.13	330	1.27
44	.68	94	.98	144	1.13	340	1.28
45	.69	95	.98	145	1.13	350	1.28
46	.70	96	.98	146	1.13	360	1.29
47	.71	97	.99	147	1.14	370	1.29
48	.71	98	.99	148	1.14	380	1.30
49	.72	99	1.00	149	1.14	390	1.30
50	.73	100	1.00	150	1.14	400	1.31

120 Feet Standard Depth							
Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
1	.03	51	.65	101	.91	151	1.12
2	.05	52	.65	102	.92	152	1.12
3	.08	53	.66	103	.92	153	1.12
4	.10	54	.66	104	.93	154	1.12
5	.13	55	.67	105	.93	155	1.13
6	.15	56	.68	106	.94	156	1.13
7	.17	57	.68	107	.94	157	1.13
8	.19	58	.69	108	.95	158	1.13
9	.21	59	.69	109	.95	159	1.14
10	.24	60	.70	110	.96	160	1.14
11	.26	61	.71	111	.96	161	1.14
12	.27	62	.71	112	.97	162	1.14
13	.29	63	.72	113	.97	163	1.15
14	.31	64	.73	114	.97	164	1.15
15	.33	65	.73	115	.98	165	1.15
16	.35	66	.74	116	.98	166	1.15
17	.36	67	.75	117	.99	167	1.15
18	.38	68	.75	118	.99	168	1.16
19	.40	69	.76	119	1.00	169	1.16
20	.41	70	.76	120	1.00	170	1.16
21	.42	71	.77	121	1.00	175	1.17
22	.43	72	.78	122	1.01	180	1.18
23	.44	73	.78	123	1.01	185	1.19
24	.45	74	.79	124	1.02	190	1.20
25	.46	75	.79	125	1.02	195	1.21
26	.47	76	.80	126	1.03	200	1.22
27	.48	77	.80	127	1.03	205	1.22
28	.48	78	.81	128	1.03	210	1.23
29	.49	79	.81	129	1.04	215	1.23
30	.50	80	.82	130	1.04	220	1.23
31	.51	81	.82	131	1.05	225	1.23
32	.52	82	.83	132	1.05	230	1.24
33	.53	83	.83	133	1.05	235	1.24
34	.53	84	.84	134	1.06	240	1.24
35	.54	85	.84	134	1.06	250	1.25
36	.55	86	.85	136	1.07	260	1.25
37	.56	87	.85	137	1.07	270	1.25
38	.57	88	.86	138	1.07	280	1.25
39	.57	89	.86	139	1.08	290	1.26
40	.58	90	.87	140	1.08	300	1.26
41	.59	91	.87	141	1.08	310	1.26
42	.59	92	.87	142	1.09	320	1.26
43	.60	93	.88	143	1.09	330	1.27
44	.60	94	.88	144	1.09	340	1.27
45	.61	95	.89	145	1.10	350	1.27
46	.62	96	.89	146	1.10	360	1.27
47	.62	97	.90	147	1.10	370	1.28
48	.63	98	.90	148	1.11	380	1.28
49	.63	99	.91	149	1.11	390	1.28
50	.64	100	.91	150	1.11	400	1.28

Table 2-7. Lot Depth Tables (132 and 150 Feet Standard Depth)

132 Feet Standard Depth								150 Feet Standard Depth							
Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
1	.03	51	.62	101	.89	151	1.06	1	.03	51	.57	101	.82	151	1.00
2	.05	52	.63	102	.90	152	1.06	2	.04	52	.58	102	.83	152	1.01
3	.07	53	.64	103	.90	153	1.06	3	.05	53	.58	103	.83	153	1.01
4	.09	54	.64	104	.90	154	1.07	4	.07	54	.59	104	.84	154	1.01
5	.10	55	.65	105	.91	155	1.07	5	.08	55	.59	105	.84	155	1.02
6	.12	56	.66	106	.91	156	1.07	6	.10	56	.60	106	.85	156	1.02
7	.13	57	.66	107	.91	157	1.07	7	.12	57	.60	107	.85	157	1.02
8	.15	58	.67	108	.92	158	1.08	8	.13	58	.61	108	.86	158	1.03
9	.17	59	.68	109	.92	159	1.08	9	.14	59	.62	109	.86	159	1.03
10	.19	60	.69	110	.93	160	1.08	10	.15	60	.62	110	.86	160	1.03
11	.20	61	.69	111	.93	161	1.08	11	.17	61	.63	111	.87	161	1.04
12	.21	62	.70	112	.94	162	1.09	12	.19	62	.63	112	.87	162	1.04
13	.23	63	.70	113	.94	163	1.09	13	.20	63	.64	113	.88	163	1.04
14	.24	64	.71	114	.94	164	1.09	14	.21	64	.65	114	.88	164	1.05
15	.26	65	.72	115	.95	165	1.09	15	.22	65	.65	115	.88	165	1.05
16	.27	66	.72	116	.95	166	1.10	16	.24	66	.66	116	.89	166	1.05
17	.29	67	.73	117	.95	167	1.10	17	.25	67	.66	117	.89	167	1.06
18	.30	68	.73	118	.95	168	1.10	18	.26	68	.67	118	.89	168	1.06
19	.32	69	.74	119	.96	169	1.10	19	.27	69	.67	119	.90	169	1.06
20	.33	70	.74	120	.96	170	1.11	20	.28	70	.68	120	.90	170	1.06
21	.34	71	.75	121	.96	175	1.12	21	.30	71	.68	121	.90	175	1.07
22	.35	72	.75	122	.97	180	1.12	22	.31	72	.69	122	.91	180	1.08
23	.37	73	.76	123	.97	185	1.13	23	.32	73	.69	123	.91	185	1.09
24	.38	74	.76	124	.97	190	1.14	24	.33	74	.70	124	.92	190	1.10
25	.39	75	.77	125	.98	195	1.14	25	.34	75	.70	125	.92	200	1.11
26	.40	76	.77	126	.98	200	1.15	26	.35	76	.70	126	.92	210	1.11
27	.41	77	.78	127	.98	205	1.15	27	.36	77	.71	127	.93	215	1.11
28	.42	78	.78	128	.99	210	1.16	28	.37	78	.71	128	.93	220	1.12
29	.43	79	.79	129	.99	215	1.16	29	.38	79	.72	129	.94	225	1.12
30	.44	80	.80	130	.99	220	1.16	30	.39	80	.72	130	.94	230	1.12
31	.45	81	.80	131	1.00	225	1.16	31	.40	81	.73	131	.94	235	1.12
32	.46	82	.80	132	1.00	230	1.17	32	.41	82	.73	132	.95	240	1.13
33	.47	83	.81	133	1.00	235	1.17	33	.42	83	.74	133	.95	250	1.13
34	.48	84	.81	134	1.01	240	1.17	34	.43	84	.74	134	.95	260	1.14
35	.49	85	.82	135	1.01	250	1.18	35	.43	85	.75	135	.96	270	1.14
36	.50	86	.82	136	1.01	260	1.18	36	.44	86	.75	136	.96	280	1.15
37	.51	87	.83	137	1.02	270	1.19	37	.45	87	.76	137	.96	290	1.15
38	.52	88	.84	138	1.02	280	1.19	38	.46	88	.77	138	.97	300	1.16
39	.53	89	.84	139	1.02	290	1.20	39	.47	89	.77	139	.97	310	1.16
40	.54	90	.85	140	1.03	300	1.20	40	.48	90	.78	140	.97	320	1.17
41	.54	91	.85	141	1.03	310	1.21	41	.49	91	.78	141	.98	330	1.17
42	.55	92	.86	142	1.03	320	1.21	42	.50	92	.79	142	.98	340	1.18
43	.56	93	.86	143	1.04	330	1.22	43	.51	93	.79	143	.98	350	1.18
44	.56	94	.86	144	1.04	340	1.22	44	.52	94	.80	144	.99	360	1.19
45	.57	95	.87	145	1.04	350	1.23	45	.52	95	.80	145	.99	370	1.19
46	.58	96	.87	146	1.05	360	1.23	46	.53	96	.80	146	.99	380	1.20
47	.59	97	.88	147	1.05	370	1.24	47	.54	97	.81	147	.99	390	1.20
48	.60	98	.88	148	1.05	380	1.24	48	.55	98	.81	148	1.00	400	1.21
49	.61	99	.89	149	1.06	390	1.25	49	.56	99	.82	149	1.00		
50	.62	100	.89	150	1.06	400	1.25	50	.56	100	.82	150	1.00		

Table 2-8. Lot Depth Tables (175 and 200 Feet Standard Depth)

175 Feet Standard Depth

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
10	.16	90	.77	170	.99	300	1.09
15	.23	95	.79	175	1.00	320	1.10
20	.29	100	.81	180	1.00	340	1.11
25	.34	105	.83	185	1.01	360	1.11
30	.38	110	.85	190	1.02	380	1.12
35	.43	115	.87	195	1.02	400	1.12
40	.48	120	.88	200	1.03	420	1.13
45	.52	125	.89	210	1.03	440	1.13
50	.56	130	.91	220	1.04	460	1.13
55	.59	135	.92	230	1.05	480	1.13
60	.62	140	.94	240	1.05	500	1.13
65	.65	145	.95	250	1.06	520	1.14
70	.68	150	.96	260	1.07	540	1.14
75	.70	155	.97	270	1.07	560	1.15
80	.73	160	.98	280	1.08	580	1.15
85	.75	165	.98	290	1.08	600	1.16

200 Feet Standard Depth

Depth	Factor	Depth	Factor	Depth	Factor	Depth	Factor
10	.13	110	.77	210	1.01	330	1.10
15	.18	115	.79	215	1.02	340	1.10
20	.24	120	.81	220	1.02	350	1.11
25	.29	125	.82	225	1.03	360	1.11
30	.33	130	.84	230	1.03	370	1.12
35	..36	135	.85	235	1.04	380	1.12
40	.40	140	.87	240	1.04	390	1.13
45	.44	145	.88	245	1.05	400	1.13
50	.48	150	.89	250	1.05	420	1.14
55	.51	155	.91	255	1.06	440	1.14
60	.54	160	.92	260	1.06	460	1.15
65	.57	165	.93	265	1.06	480	1.15
70	.59	170	.94	270	1.07	500	1.15
75	.62	175	.95	275	1.07	520	1.16
80	.64	180	.96	280	1.07	540	1.16
85	.67	185	.97	285	1.08	560	1.16
90	.69	190	.98	290	1.08	580	1.17
95	.71	195	.99	300	1.08	600	1.17
100	.73	200	1.00	310	1.09		
105	.75	205	1.01	320	1.09		

Determining Influence Factors for Platted Lots

When the assessing official establishes base rates for a neighborhood, the assessor establishes rates for a base lot. The calculated value of this base entity becomes the standard to which all remaining lots within the neighborhood are compared. Often there are conditions peculiar to specific lots within a neighborhood that must be analyzed on an individual basis. These conditions require the assessor to make an adjustment to the value of the lot. This adjustment is an influence factor.

An influence factor represents the composite effect that influences the value of certain lots within the boundaries of an entire neighborhood. It is expressed as a percentage. The percentage is obtained by comparing the estimated dollar amount of the adjustment to the estimated value of the lot. This ratio is converted to a percentage. If the ratio represents a negative amount, a negative influence factor percentage is applied to the subject land. If the ratio is a positive amount, a positive influence factor is applied to the subject land.

The examples in the sections below illustrate how to identify and calculate influence factors for platted lots.

Adverse Topography Example

In Neighborhood #1, the lots measure 60 feet by 120 feet. The base rate is $200 per front foot. Each lot has an improved value estimate of $12,000 per lot.

On Lot #62 of the subdivision, there is a one family dwelling with a yard that occupies approximately the front 90 feet of the lot. The remaining 30 feet of the lot is a ravine that cannot be utilized. The lot sold for less than the standard lots. The ravine area was the reason for the lower price. Because the area was developed in the 1950s, the original sales information is no longer accessible.

In this case, the assessing official may apply an influence factor because of the adverse topography. The assessor estimates the difference in value between this lot and the standard lot as $1,000, or 8 1/3% of the selling price of the standard lots. The assessor applies an 8% influence factor to the subject lot.

Absence of Land Improvements Example

Lot #86 is located in Neighborhood #1. It is the standard lot size and is vacant. There is no water or sewage disposal system installed on the property. The lot value of $12,000, established by the assessing official, represents an improved lot value with either water and sewage utilities, water well and septic system, or a combination of both. Other improvement costs associated with this land are driveways, private walkways, and an allowance for typical landscaping. Because Lot #86 does not have these services, an adjustment or influence factor is necessary.

The assessor surveys the jurisdiction to determine the amount included in the value of improved land for the various land improvement costs. Improvement costs affect individual lots differently based on the estimated improved land value. For a less valuable area, the influence factor percentage is higher than for a more valuable area because the land improvement cost represents a higher percentage of the total land value.

The assessing official contacted the utility companies servicing this neighborhood and determined that lot owners are charged $900 to tap into the existing systems. The assessor estimated that it costs an additional $700 to run water and sewer lines from the existing utilities to the normal placement of a dwelling of this lot. The total cost to improve this lot with water and sewer for a dwelling is $1,600 ($700 + $900 = $1,600).The cost of installing utilities is depreciated by the assessor in this neighborhood by 50% to obtain a partial adjustment of $800. The assessor estimates that the improvement costs for a residential driveway, typical landscaping, and private sidewalks is equal to $1,000. The total cost attributed to improve a residential lot in this neighborhood is $1,800 ($800 + $1,000 = $1,800). To determine the influence factor, divide the adjustment by the value for the lot before the adjustment ($1,800 ÷ $12,000 = .15 or 15%).

The assessor applies a negative 15% influence factor for “under improved” to each vacant lot, until such time when the lot is improved. For each neighborhood, the assessor develops the estimated amount included in the value to improve the land. The deduction for a lack of improvements affects individual lots differently based on the estimated improved land value. For less valuable neighborhoods, the influence factor percentage would tend to be higher than in the more valuable neighborhoods because the land improvement addition increase represents a higher percentage of the total land value.

Excessive Frontage Example

In Neighborhood #1, the standard lot width is 60 feet. The assessor has established a base rate of $200 per front foot. Lot #1 and Lot #2 are not typical lots of the subdivision because they have street frontage equal to 90 feet instead of 60 feet. These lots contain the original subdivision model homes, which were built in the middle of the 90 foot lots.

Neither dwelling design requires 90 feet of frontage. Both dwellings would fit on the 60 foot lots located throughout the subdivision.

The value of a 60 feet lot is $12,000. The 90 feet lots are not worth 50% more than the standard lots. A value of $18,000 for the lots is too high. However, the lots are worth more than $12,000.

The dwellings were built in the middle of the lots. There is a 60 feet lot with two 15 feet strips of land on either side. The 60 feet portion of the lots is comparable to the standard lot established for the area. The two 15 feet strips are classified as excessive frontage. The assessor estimates that these lots are worth approximately $15,000 each. To reinforce this opinion, the assessor calculates the 30 feet of excess frontage at 50% loss of value (30′ x $200 x .50 = $3,000). To determine the influence factor, divide the adjustment by the unadjusted value ($3,000 ÷ $18,000 = .16666 or 16 2/3%). The assessor grants an excessive frontage influence factor of 17% to Lot #1 and Lot #2. This adjustment equals a deduction of $3,060. The land value of each lot is $14,940 ($18,000 – $3,060 = $14,940).

Completing the Land Data and Computations Section of the Property Record Card for Platted Lots

This section describes how to complete the "Land Data and Computations" section of a Property Record Card for a platted lot. The steps describe how to use the front foot method to calculate the value of the lot. The steps for completing the Property Record Card are grouped into two tasks, described in the sections below:

- Task 1—Record the necessary data for the lot.
- Task 2—Calculate the land value for the lot.

Task 1—Recording the Necessary Data

Space is provided on both the residential and the commercial/industrial Property Record Cards to compute the land value of each lot entry for a platted lot. Enter the data into a series of columns using one row per entry. For example, if a lot is composed of a rear lot and a front lot, enter the rear lot and the front lot as separate entries.

To enter the data for a platted lot, perform these steps:

STEP 1 In the "Land Type" column, enter the code corresponding to the land type classification of the lot entry. Table 2-9 describes the land type options for platted lot entries.

Table 2-9. Land Type Options for Platted Lots

This option	Indicates
F	The lot fronts the street and is computed as a front lot.
R	The lot has no street access and is computed as a rear lot.

STEP 2 In the "Actual Frontage" column, enter the actual front foot dimensions of the lot entry. Round to the nearest 1/10 (.1) foot.

STEP 3 In the "Effective Frontage" column, enter either the figured frontage of an irregularly shaped lot or the usable frontage of a lot (as determined by the assessor). Round to the nearest foot. Instructions for determining the effective frontage of a lot are provided in the section ***Establishing the Effective Frontage and Depth of Platted Lots*** in this chapter.

STEP 4 In the "Effective Depth" column, enter the average or computed depth, as in the case of irregularly shaped lots, or the usable depth (as determined by the assessor). Round to the nearest foot. Instructions for determining the effective depth of a lot are provided in the section ***Establishing the Effective Frontage and Depth of Platted Lots*** in this chapter.

STEP 5 In the "Depth Factor" column, enter the depth factor used to adjust the base rate or unit value to account for depth variations from the norm. Instructions for determining the depth factor of a lot are provided in the section ***Determining the Depth Factor for Platted Lots*** in this chapter.

STEP 6 In the "Base Rate" column, enter the front foot rate for the area as determined by the jurisdiction assessor and modified/approved by the Property Tax Assessment Board of Appeals.

STEP 7 In the "Influence Factor" column, indicate any condition peculiar to the lot that requires an adjustment to the estimated value to account for variations from the base lot on which the base unit land value for the neighborhood is predicated. Enter a single digit numeric code to indicate the nine most prevalent factors and the other factors (code 0) not indicated elsewhere on the Property Record Card. Any time code 0 is entered, describe the specific factor in the memorandum section on the property record card.

a. Enter the influence code to the left of the brackets.

b. Enter the percentage adjustment to the right of the brackets.

c. Within the brackets, enter a plus (+) to indicate an increase. Enter a minus (–) to indicate a decrease. Table 2-10 describes the influence factor codes. Information about influence factors is provided in the section ***Determining Influence Factors for Platted Lots*** in this chapter.

Table 2-10. Influence Factor Codes for Platted Lots

This code	Indicates
1 Topography	A decrease based on adverse topographical features.
2 Under Improved	A decrease based on the under improvement of landscaping, residential driveways and private walkways, and utility hookups.
3 Excess Frontage	A decrease based on the lower utility value of frontage that is significantly in excess of the base lot frontage.
4 Shape or Size	A decrease based on an irregularity in shape that limits the use of the parcel **or** a decrease for an oversized lot whose variations are not accounted for elsewhere. An increase based on an irregularity in shape that enhances the use of the parcel **or** an increase for an undersized lot whose variations are not accounted for elsewhere.
5 Mis-improvement	A decrease indicating a lot that has been valued higher than its current use. The value must be lowered to the level of comparable properties in the subject neighborhood.
6 Restrictions	A decrease based on encumbrances, restrictive covenants, or obstructions that limit the use of the land.
7 Traffic Flow	A decrease to account for the nuisance of significantly heavier traffic flow that affects the base lot and is not considered in the base lot value.

8 View	A decrease to account for variations in view from the subject lot and not from the base lot that detracts from the subject lot. An increase to account for variations in view from the subject lot and not from the base lot that enhances the subject lot.
9 Corner Influence	A decrease to account for building restrictions, such as double set backs and increased traffic flow, that detract from the subject lot and are not considered in the base lot value. An increase to account for building restrictions, such as double set backs and increased traffic flow, that offer commercial benefits and are not considered in the base lot value.

O Other	An influence, not described above, such as the following,. Describe the factor in the memorandum section. ▪ **Golf course**—An increase to account for a particular location enhancement, not characteristic of the base lot. ▪ **Water frontage**—An increase to account for proximity to a water front, not characteristic of the base lot. ▪ **Cul-de-sac**—An increase to account for shape or size enhancements due to a cul-de-sac location, not characteristic of the base lot. ▪ **Location**—An increase or decrease to account for the influence of a particular location and not considered in the base lot. ▪ **Soil conditions**—A decrease to account for adverse soil conditions that prohibit the subject lot being used the same as the base lot. ▪ **Drainage**—A decrease to account for drainage limitations, indicated by standing water, not characteristic of the base lot. ▪ **Flooding susceptibility**—A decrease to account for a lot or a portion of a lot being in a flood plain, not characteristic of the base lot. ▪ **Noise nuisance**—A decrease to account for extraneous noise or other such nuisances not characteristic of the base lot. ▪ **Excess depth**—A decrease to account for a disproportionate frontage depth not accounted for in the size adjustment factor. ▪ **Limited access**—A decrease to account for ingress or egress limitations not characteristic of the base lot.

STEP 8 Repeat Step 1 through Step 7 for each lot entry.

Task 2—Calculating the Land Value

Next, use the data that you entered on the property record card to calculate the land value for the platted lot. Perform these steps:

STEP 1 Calculate the adjusted rate for the lot entry by multiplying the base rate by the depth factor:

Adjusted rate = Base rate x Depth factor

Round the adjusted rate to the nearest $1 and enter it in the "Adjusted Rate" column.

STEP 2 Calculate the estimated value of the lot entry by multiplying the effective frontage by the adjusted rate:

Estimated value = Effective frontage x Adjusted rate

Round the estimated value to the nearest $10 and enter it in the "Estimated Value" column.

STEP 3 Calculate the land value of the lot entry by adjusting the estimated value by the influence factor:

Land value = estimated value x (1.00 – Influence factor percentage)

Round the land value to the nearest $10 and enter it in the "Land Value" column.

Note: A positive influence factor would be an addition to the influence factor percentage of 1.00. If there is no influence factor, the land value is the same as the estimated value.

STEP 4 Perform Step 1 through Step 3 for each lot entry.

STEP 5 Calculate the total residential land value by summing the entries in the "Land Value" column that represent residential land. Round the total residential land value to the nearest $100 and enter it in the "Total Residential Land Value" cell.

STEP 6 Calculate the total non-residential land value by summing the entries in the "Land Value" column that represent non-residential land. Round the total non-residential land value to the nearest $100 and enter it in the "Total Non-Residential Land Value" cell.

Example: Figure 2-13 shows the dimensions of three lots. The front lot is 100 feet by 100 feet. The rear lot behind it is 100 feet by 120 feet. Another rear lot is located behind the first rear lot. The second rear lot is 100 feet by 140 feet. These lots are in a neighborhood where the standard depth is 100 feet and the base rate is $50 per front foot.

Use the “Land Data and Computations” section of a property record card for these lots. This information is used to complete the property record card. As you review this figure, keep in mind the following points:

- The “Land Type” column indicates whether each lot is a front lot or rear lot.

- The actual frontage of each lot is determined from the lot plats.

- The effective frontage and effective depth are calculated following the instructions provided in the section ***Establishing the Effective Frontage and Depth for Platted Lots*** in this chapter.

- The depth factor is determined following the instructions in the section ***Determining the Depth Factor for Platted Lots*** in this chapter.

- The base rate is determined for the neighborhood by the jurisdiction assessor.

- The adjusted base rate for the front lot is:

  Adjusted base rate = Base rate x Depth factor
  $50 = $50 x 1.00

- The adjusted base rate for the first rear lot is: $50 x .22 = $11.

- The adjusted base rate for the second rear lot is:

  $50 x .07 = $3.50 = $4 rounded.

- The estimated value of the front lot is:

  Estimated value = Effective frontage x Adjusted rate
  $5,000 = 100′ x $50

- The estimated value of the first rear lot is: 100′ x $11 = $1,100.

- The estimated value of the second rear lot is: 100′ x $4 = $400.

- Since there is no influence factor for any of the lots, the true tax value of each lot is the same as the lot’s estimated value.

- The total residential land value for the parcel is the sum of the land values of the three lots. *In this case the total is considered residential land value because it is less than or equal to one acre.*

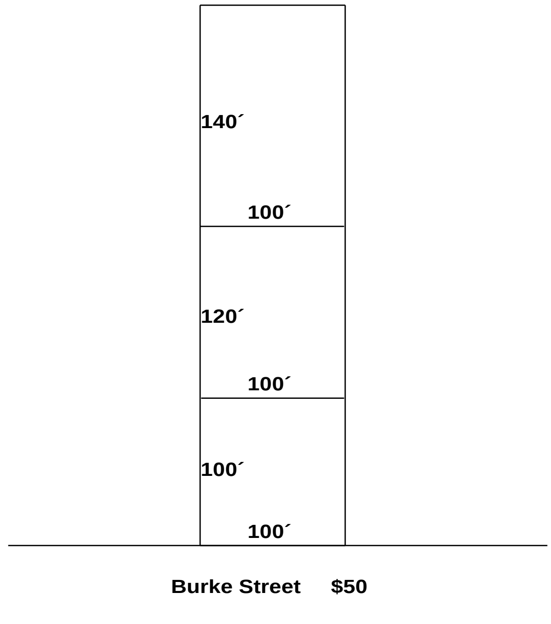


Figure 2-13. Dimensions of Example Lots

Valuing Residential Acreage and Agricultural Homesites

There is a subtle distinction between residential acreage tracts and land valued using the agricultural soil productivity method. The basis for this distinction is the different valuation methods used to determine land value for the two types of land. ***Agricultural land*** is valued using a statewide base rate and a soil productivity index system, as described in the section ***Valuing Agricultural Land***. All land utilized for agricultural purpose is valued in this manner. ***Residential land*** is land that is utilized or zoned for residential purposes.

The parcel's size does not determine the property classification or pricing method for the parcel. The property classification and pricing method are determined by the property's use or zoning. Land purchased and utilized for residential purposes is based on market worth as of **~~March 1, 2011~~January 1st**.

A land area of one acre per residential dwelling unit is assigned to agricultural parcels and residential parcels priced on an acreage basis. The value of this one acre land area is based on the ~~March 1, 2011~~January 1st cost of a vacant unimproved acre of land plus the ~~2011~~ current year costs of improving the land. Land improvement costs include the cost of landscaping, ingress and egress from the property, and the depreciated ~~2011~~ current year cost of improving the land with either a water well and septic system, or in the case of lands already developed with utility services, the material and labor costs associated with hook-up fees. The ~~2011~~ current year water and sewage additive reflects the overall depreciation assigned to existing facilities within the neighborhood, but may not be less than 50% of the ~~2011~~ current year cost of installing these improvements.

Example: In a neighborhood of the jurisdiction, a vacant unimproved one acre parcel sold for $6,000. The actual water well and septic system expense is $5,000. In this neighborhood, it has been determined that the land improvement costs equal an additional $4,000. That amount was derived by attributing a 60% ratio for the well and septic and an additional $1,000 for other miscellaneous land improvements (60% of $5,000 = $3,000 + $1,000 = $4,000).The base rate applicable to the improved homesite is calculated by adding the vacant land cost to the land improvement costs ($6,000 + $4,000 = $10,000).

A parcel's value is influenced by its location. The value of unimproved land may vary substantially between two separate neighborhoods. A one acre unimproved parcel located in a remote neighborhood is less valuable than a one acre unimproved parcel located in a neighborhood on a lake at the edge of town. The difference in their value is attributable to the location difference. The demand for the lake parcel increases the value.

Not all neighborhoods are as diverse as the two in this example. The boundaries of the neighborhoods and their characteristics determine the amount of variation in value. It is impossible to create a precise formula that measures every variable of location and converts those variables into a precise value. The assessor must analyze all variables in the market in order to measure the effects location has on land values.

Valuing Residential Acreage Parcels Larger Than One Acre

Residential acreage parcels of more than one acre and not used for agricultural purposes are valued using the residential homesite base rate and the excess acreage base rate established by the assessing official. The excess acreage base rate represents the ~~2011~~ current year acreage value of land when purchased for residential purposes. The land value of the subject parcel should represent the ~~March 1, 2011~~January 1st market value in the neighborhood.

If the parcel has a dwelling, one acre is valued using the residential homesite value. The remaining acreage is valued using the excess acreage rate. There must be a residential dwelling unit on the parcel before the homesite acreage rate can be used.

If there is no dwelling unit on the parcel, the amount of acreage in the entire parcel is multiplied by the appropriate excess acre rate. The excess acre base rate represents the ~~2011~~ current year acreage value of the land purchased for residential purposes in this neighborhood. The value of the subject parcel should represent the ~~March 1, 2011~~January 1st market value of the property.

The following examples illustrate how residential acreage is valued for parcels larger than one acre. These examples assume a homesite base rate of $10,000 (per acre) and an excess acreage base rate of $1,000 (per acre).

Example 1: A residential parcel has 1.36 acres and a dwelling. The value of the one acre homesite is $10,000. The value of the excess acreage (1.36 acres – 1 acre = .36 acre) is calculated by multiplying the acreage by the excess acreage base rate (.36 acre x $1,000 = $360). The total value of the parcel is the sum of the value of the homesite and the excess acreage ($10,000 + $360 = $10,360 = $10,400 rounded to the nearest $100).

Example 2: A residential parcel is vacant and has three acres. Its value is calculated by multiplying the acreage by the excess acreage base rate (3 acres x $1,000 = $3,000).

Example 3: A residential parcel has 8 acres and a dwelling. The value of the one acre homesite is $10,000. The value of the excess acreage (8 acres – 1 acre = 7 acres) is: 7 acres x $1,000 = $7,000. The total value of the parcel is: $10,000 + $7,000 = $17,000.

Valuing Residential Acreage Parcels One Acre or Smaller

Residential acreage parcels containing one acre or less are valued using the base rate (per acre) determined by the assessing official and the appropriate factor obtained from the Acreage Size Adjustment Table. Instructions for determining the size adjustment factor for a parcel are provided in the section ***Determining Size Adjustment Factors for Acreage*** in this chapter. The size adjustment table compares smaller improved parcels to the established one acre standard. The value of the parcel is calculated by multiplying the lot size adjustment factor for the subject parcel by the base rate, and by multiplying the result by the acreage size.

Example: A .50 acre parcel is located in a neighborhood where the base rate is $8,000 (per acre). The Acreage Size Adjustment Table indicates that the adjustment factor for .50 acres is 1.50. The value of the parcel is:

$8,000 x 1.50 adjustment factor = $12,000 x .50 acres = $6,000

Valuing Residential Acreage Tracts Using the Front Foot Method

It is often necessary to value acreage tracts of land using the front foot method of pricing instead of the acreage method of pricing. In particular, the front foot method often is used for tracts less than one acre in size and surrounded by platted lots. The land value in the same neighborhood is not different merely because the legal descriptions of the parcels are inconsistent.

The best way to determine the dimensions of a subject property is to read the deed or inspect a survey of the property. This method is time consuming, but is the most accurate. In those counties where the plat maps are verified to scale, a simple measurement of the property will approximate the measurements to an acceptable level. In either case, if you determine either the frontage or depth for a rectangular parcel in feet, you can determine the other dimension by multiplying the acreage of the parcel by 43,560 (the number of square feet per acre) and dividing the result by the known dimension (in feet).

Establishing Base Rates for Residential Acreage Tracts

To calculate the indicated acreage base rate of small acreage tracts located among platted lots, the assessor must determine the value of the comparable adjoining lots and work backwards. The following examples illustrate this process.

Example 1: Neighborhood #4 was platted with lots measuring 60 feet by 120 feet. The established value of these improved lots is $6,000. Scattered among the platted lots are small acreage tracts of .165 acre. The assessor must determine the lot size of each tract and price each tract using the front foot method. However, for purposes of illustration, the acreage base rate can be calculated.

Calculate the size of the platted lots in acres by first determining the number of square feet in the lot (60 feet x 120 feet = 7,200 square feet). Then, divide the square footage of the lot by the number of square feet in an acre (7,200′ ÷ 43,560′

= .165 acre). The acreage tracts are the same size as the platted lots. It is important to make this comparison because the base lot for the neighborhood was established at 60′ x 120′ or .165 acre. Any acreage tracts above or below this size may need an influence factor adjustment applied to the estimated value.

To establish the acreage base rate, divide the established value of the platted lots by the acreage size adjustment factor for .165 acre, and divide the result by the size of the tract ($6,000 ÷ 2.32 = $2,586 ÷ .165 acre = $15,674). The acreage base rate needed to calculate the $6,000 estimated value of a .165 acre tract in this neighborhood is $15,700.

Example 2: Neighborhood #5 is at the edge of town. The sizes of the acreage tracts range from .41 acre to .5 acre. The assessing official estimates the range of values for these tracts to be $10,000 to $12,000. The assessor establishes the base acreage tract in Neighborhood #5 to be .45 acres. The average value of the tracts is $11,000. Calculate the acreage base rate by dividing the average value of the tracts by the size adjustment factor for the average size of the tracts, and by dividing the result by the average tract size ($11,000 ÷ 1.57 = $7,006 ÷ .45 acre = $15,570). The acreage base rate for Neighborhood #5 is $15,600.

Determining Size Adjustment Factors for Acreage

To determine the size adjustment factor for acreage, perform the following steps:

STEP 1 Determine the size of the tract.

STEP 2 In the “Acre” column of the size adjustment table, locate the row corresponding to the actual size of the tract.

STEP 3 Find the intersection of the selected row and the “Factor” column. Note the number that you find—the size adjustment factor for the tract.

To use the size adjustment factor to calculate the value of a parcel that has a size different from the standard in the area, multiply the acreage base rate by the size adjustment factor to find the acreage adjusted rate. Then multiply the acreage adjusted rate by the acreage size of the tract to find the estimated value of the parcel.

Acreage Adjusted Rate = Acreage Base Rate x Acreage Size Adjustment Factor

Estimated Value = Acreage Adjusted Rate x Acreage size

Example: The estimated value of a .50 acre parcel located in Neighborhood #5 with a base rate of $15,600 is

$23,400 = $15,600 x 1.50

$11,700 = $23,400 x .50 acre

Table 2-11. Acreage Size Adjustment Table

Note: When applying this table to square footage, convert the square footage into acreage by dividing by 43,560.

Acre	Factor	Acre	Factor	Acre	Factor	Acre	Factor
.05	3.00	.30	1.85	.55	1.44	.80	1.19
.06	2.94	.31	1.83	.56	1.44	.81	1.18
.07	2.88	.32	1.81	.57	1.43	.82	1.17
.08	2.82	.33	1.79	.58	1.43	.83	1.15
.09	2.76	.34	1.77	.59	1.42	.84	1.14
.10	2.70	.35	1.75	.60	1.42	.85	1.13
.11	2.64	.36	1.73	.61	1.42	.86	1.12
.12	2.58	.37	1.71	.62	1.41	.87	1.11
.13	2.52	.38	1.69	.63	1.41	.88	1.10
.14	2.46	.39	1.67	.64	1.40	.89	1.09
.15	2.40	.40	1.65	.65	1.40	.90	1.08
.16	2.36	.41	1.63	.66	1.38	.91	1.07
.17	2.32	.42	1.62	.67	1.37	.92	1.06
.18	2.28	.43	1.60	.68	1.35	.93	1.06
.19	2.24	.44	1.59	.69	1.34	.94	1.06
.20	2.20	.45	1.57	.70	1.32	.95	1.04
.21	2.16	.46	1.55	.71	1.30	.96	1.03
.22	2.12	.47	1.54	.72	1.29	.97	1.02
.23	2.08	.48	1.53	.73	1.28	.98	1.02
.24	2.04	.49	1.51	.74	1.26	.99	1.01
.25	2.00	.50	1.50	.75	1.25	1.00	1.00
.26	1.97	.51	1.49	.76	1.24		
.27	1.94	.52	1.48	.77	1.23		
.28	1.91	.53	1.46	.78	1.21		
.29	1.88	.54	1.45	.79	1.20		

Example: A .33 acre tract is located in a neighborhood where 1 acre tracts are valued at $20,000 per acre. The estimated value of the .33 acre tract is calculated as: $20,000 x 1.79 = $35,800 x .33 acres = $11,814 or $11,810.

Determining Influence Factors for Residential Acreage

Influence factors are applied to residential acreage in the same way that they are applied to platted lots. When the assessing official establishes base rates for a neighborhood, the assessor establishes rates for the base acreage tract. The calculated value of this base entity becomes the standard against which all remaining acreage tracts within the neighborhood are compared. Often, there are conditions peculiar to specific tracts within the neighborhood that must be analyzed on an individual basis. These conditions require the assessor to make an adjustment to the value of the tract. This adjustment is an influence factor.

An influence factor refers to an aspect of a lot's condition that is different from the base lot on which the base unit land value for the subject neighborhood is based. An influence factor requires an adjustment to the estimated value of the lot to account for variations and is expressed as a percentage. The percentage is obtained by comparing the estimated dollar amount of the adjustment to the estimated value of the lot. This ratio is converted to a percentage. If the ratio represents a negative amount, a negative influence factor percentage is applied to the subject land. If the ratio represents a positive amount to the subject, a positive influence factor is applied to the subject's land.

The examples below illustrate how to identify and calculate influence factors for residential acreage.

Example 1: Parcel A is a 4 acre parcel with a residential dwelling and a mobile home situated on it. Because there are two dwelling units, the assessor has designated two 1 acre residential homesites for the property. Upon investigation, it is determined that the mobile home has its own septic system, but obtains its water supply from the residential dwelling. Both 1 acre residential sites are priced using a base rate of $10,000 per acre. An adjustment is necessary to the 1 acre site where the mobile home is located because there is no separate water supply to the mobile home. The amount of the influence factor adjustment equals the dollar amount attributed to water facilities ($1,000), as established by the assessing official. Therefore, an adjustment of 10% is applied to the 1 acre homesite for the mobile home.

Example 2: Area #10 surrounds a lake and contains parcels sized at .30 acre to .50 acre. The base parcel size of the neighborhood is .40 acre. The base rate for Area #10 has been established at $121,200 per acre. The value of the base lakefront parcel is $80,000.

$121,200 x 1.65 x .40 = $79,990

During the analysis of the sales data, it was realized that the individual parcel size made no significant difference in the market value of the land. Therefore, all individual parcels should have a land value of approximately $80,000. A .30 acre parcel receives a positive influence factor of +19%.

$121,200	x	1.85	x	.30 acre	=	$67,270
$80,000	÷	$67,270	=	1.189	or	1.19
1.19	-	1.00	=	.19	or	19%

A .50 of an acre parcel receives a negative influence factor of -12%.

$121,200	x	1.50	x	.50 acre	=	$90,900
$80,000	÷	$90,000	=	.880	or	.88
.88	-	1.00	=	-.12	or	-12%

Completing the Land Data and Computations Section of the Property Record Card for Residential Acreage

This section describes how to complete the "Land Data and Computations" section of a residential Property Record Card for residential acreage tracts. The steps describe how to use the acreage method to calculate the value of the acreage. The steps for completing the Property Record Card are grouped into two tasks, described in the sections below:

- Task 1—Record the necessary data for the residential acreage.
- Task 2—Calculate the land value for the residential acreage.

Task 1—Recording the Necessary Data

Space is provided on the residential Property Record Card to compute the land value of each residential acreage tract. Enter the data into a series of columns using one row per entry. Enter the one acre residential homesite, if there is one, and the excess acreage as separate entries.

To enter the data for residential acreage, perform these steps:

STEP 1 In the "Land Type" column, enter the code corresponding to the land type classification of the entry. Table 2-12 describes the land type options for residential acreage tracts.

Table 2-12. Land Type Options for Residential Acreage Tracts

This option	Indicates
9	The amount of land entered in the "Acreage" column is used as a residential homesite.
91	The amount of land entered in the "Acreage" column is classified as residential excess acres.

STEP 2 In the "Acreage" column, enter the acreage (in acres) for this entry. For parcels of one acre or less and containing a residential dwelling, the entire parcel is designated as a homesite.

STEP 3 In the "Depth Factor" column, enter the factor used to adjust the base rate or unit value. Instructions for determining the size adjustment factor of a residential acreage tract are provided in the section ***Determining Size Adjustment Factor for Acreage*** in this chapter. The size adjustment factor is applied to the portion of acreage that is or could be used as a homesite. Acreage identified as excess acreage (over 1.00 acre) does not require a size adjustment factor.

STEP 4 *If the entry is a residential homesite*, enter the homesite rate as determined by the jurisdiction assessor in the "Base Rate" column.

If the entry is residential excess acreage, enter the excess acre rate as determined by the jurisdiction in the "Base Rate" column.

STEP 5 In the "Influence Factor" column, indicate any condition peculiar to the acreage tract that requires an adjustment to the estimated value to account for variations from the norm:

a. Enter the influence code to the left of the brackets.

b. Enter the percentage adjustment to the right of the brackets.

c. Within the brackets, enter a plus (+) to indicate an increase. Enter a minus (–) to indicate a decrease. Table 2-13 describes the influence factor codes. Information about determining influence factors is provided in the section ***Determining Influence Factors for Residential Acreage*** in this chapter.

Table 2-13. Influence Factor Codes for Residential Acreage and Agricultural Homesites

This code	Indicates
1 Topography	A decrease based on adverse topographical features.
2 Under Improved	A decrease based on the under improvement of landscaping, residential driveways and private walkways, and utility hookups.
3 Excess Frontage	A decrease based on the lower utility value of frontage that is significantly in excess of the base lot frontage.
4 Shape or Size	A decrease based on an irregularity in shape that limits the use of the parcel **or** a decrease for an oversized lot whose variations are not accounted for elsewhere. An increase based on an irregularity in shape that enhances the use of the parcel **or** an increase for an undersized lot whose variations are not accounted for elsewhere.
5 Mis-improvement	A decrease indicating a lot that has been valued higher than its current use. The value must be lowered to the level of comparable properties in the subject neighborhood.
6 Restrictions	A decrease based on encumbrances, restrictive covenants, or obstructions that limit the use of the land.
7 Traffic Flow	A decrease to account for the nuisance of significantly heavier traffic flow that affects the base lot and is not considered in the base lot value.
8 View	A decrease to account for variations in view from the subject lot and not from the base lot that detracts from the subject lot. An increase to account for variations in view from the subject lot and not from the base lot that enhances the subject lot.

9 Corner Influence	A decrease to account for building restrictions, such as double set backs and increased traffic flow, that detract from the subject lot and are not considered in the base lot value. An increase to account for building restrictions, such as double set backs and increased traffic flow, that offer commercial benefits and are not considered in the base lot value.

O Other	An influence, not described above, such as the following. Describe the factor in the memorandum section. ■ **Golf course**—An increase to account for a particular location enhancement, not characteristic of the base lot. ■ **Water frontage**—An increase to account for proximity to a water front, not characteristic of the base lot. ■ **Cul-de-sac**—An increase to account for shape or size enhancements due to a cul-de-sac location, not characteristic of the base lot. ■ **Location**—An increase or decrease to account for the influence of a particular location and not considered in the base lot. ■ **Soil conditions**—A decrease to account for adverse soil conditions that prohibit the subject lot being used the same as the base lot. ■ **Drainage**—A decrease to account for drainage limitations, indicated by standing water, not characteristic of the base lot. ■ **Flooding susceptibility**—A decrease to account for a lot or a portion of a lot being in a flood plain, not characteristic of the base lot. ■ **Noise nuisance**—A decrease to account for extraneous noise or other such nuisances not characteristic of the base lot. ■ **Excess depth**—A decrease to account for a disproportionate frontage depth not accounted for in the size adjustment factor. **Limited access**—A decrease to account for ingress or egress limitations not characteristic of the base lot.

STEP 6 Repeat Step 1 through Step 5 for each residential tract entry.

Task 2 Calculating the Land Value

To calculate the land value for the residential acreage, perform these steps:

STEP 1 Calculate the adjusted rate for the residential acreage tract entry by multiplying the base rate by the size adjustment factor:

Adjusted rate = Base rate x Size Adjustment factor

Round the adjusted rate to the nearest $1.

STEP 2 _Calculate the estimated value of the entry by multiplying the amount of acreage by the adjusted rate:

Estimated value = Adjusted Rate x Amount of Acreage

Round the estimated value to the nearest $10.

STEP 3 _Calculate the land value of the entry by adjusting the estimated value by the influence factor:

Land value = Estimated value x (1.00 - Influence Factor Percentage)

....Round the land value to the nearest $10.

Note: A positive influence factor would be an addition of the influence factor percentage to 1.00. If there is no influence factor, the land value is the same as the Estimated value.

STEP 4 _Perform Step 1 through Step 3 for each residential acreage tract entry.

Example: The subject residential parcel has a size of 2.50 acres and contains a dwelling. The parcel has a one acre homesite. The remaining 1.50 acres are considered residential excess acres. This parcel is located in a neighborhood where the homesite base rate is $10,000 and the residential excess acre base rate is $2,000 per acre.

- The “Land Type” column designates each portion of the acreage.
- The “Acreage” column indicates the acreage size for each land type.
- The “Factor” column indicates the size adjustment factor for the homesite portion of the lot.
- The assessing official determines the base rate for the neighborhood.
- The adjusted base rate for the homesite acreage is

Adjusted Base Rate = Base Rate x Size Adjustment Factor

$10,000 = $10,000 x 1.00

- The adjusted Base Rate for the residential excess acreage is

Adjusted Base Rate = Base Rate x 1.00

$2,000 = $2,000 x 1.00

- The estimated value of the homesite acreage is

Estimated Value = Adjusted Base Rate x Homesite Acreage

$10,000 = $10,000 x 1.00 acres

- The estimated value of the residential excess acreage is

Estimated Value	=	Adjusted Base Rate	x	Excess Acreage Size
$3,000	=	$2,000	x	1.50 acres

- Since there are no influence factors on the parcels, the land value of each entry is the same as the estimated value.

- The total residential land value for this parcel is the same as the first entry ($10,000). *In this case the total is considered residential land value because it is less than or equal to one acre.*

- The total non-residential land value for this parcel is the same as the second entry ($3,000). *In this case the total is considered non-residential land value because it is the amount over 1 acre*.

Valuing Commercial and Industrial Land

The procedure for valuing commercial and industrial acreage tracts is similar to the procedure for other types of land. However, sales information for existing business properties is less reliable and less available. The assessing official must draw on the expertise within the community to establish the basis of valuing these types of tracts. The assessing official must delineate general neighborhood areas on the basis of characteristics that distinguish them from other areas. This delineation is normally based on such characteristics as:

- zoning
- major roads or streets
- natural geographic features like waterways or lakes
- availability of certain modes of transportation.

These neighborhoods are the basis for establishing land values.

Understanding Commercial and Industrial Land Categories

There are four categories of commercial and industrial land described in Table 2-14.

Table 2-14. Categories of Commercial and Industrial Land

This category	Indicates
Primary	The primary building or plant site. The following are examples of primary land: ▪ land located under buildings ▪ regularly used parking areas ▪ roadways ▪ regularly used yard storage ▪ necessary support land
Secondary	Land used for purposes that are secondary to the primary use of the land. The following are examples of secondary land: ▪ parking areas that are not used regularly ▪ yard storage that is not used regularly
Usable Undeveloped	The amount of acreage that is vacant and held for future development
Unusable Undeveloped	The amount of vacant acreage that is unusable for commercial or industrial purposes, and not used for agricultural purposes

Normally, large acreage tracts are partitioned to indicate the various uses of the individual tract. Small acreage tracts of one acre or less are often used as a primary building site and require the primary land classification.

The base rate for each use category includes the following items:

- For primary land, the base rate represents the estimated ~~March 1, 2011~~January 1st value of the vacant land and various costs associated with the development of the land**.** The following developmental costs may be included in the base rate for primary acreage:
    - sanitary sewers
    - storm sewers
    - potable water lines
    - fire prevention lines
    - gas lines
    - septic systems
    - water wells
    - grading for general improvement of the site
    - landscaping.

- For secondary land, the base rate represents the ~~March 1, 2011~~January 1st value of the vacant land and the various costs associated with the development of the land. Normally, this acreage does not include developmental costs for water and sewage. The following developmental costs may be included in the base rate for secondary acreage:
    - storm sewers
    - grading for general improvement of the site.

- For usable undeveloped land, the base rate represents the ~~March 1, 2011~~January 1st value of vacant or raw land that is zoned for commercial and industrial purposes. This type of land has incurred no on-site development cost. This category does ***not*** include land utilized for agricultural purposes, as stated in IC 6-1.1-4-13.

- For unusable undeveloped land, the base rate represents the ~~March 1, 2011~~January 1st value of undeveloped land that is zoned for commercial or industrial purposes. This type of land has incurred no on-site development costs and normally represents an area of vacant land with restrictions. There may be restrictions against building because there are environmental hazards on the property or because the area has been designated as a wetland area by the federal government. This category does ***not*** include land that is utilized for agricultural purposes, as stated in IC 6-1.1-4-13.

Establishing Use Classes for Commercial and Industrial Properties

Within each neighborhood, the assessing official may establish broad use classes based on either the current use or probable use of commercial or industrial properties. The identification of broad use classes helps ensure that similar types of properties are analyzed and valued consistently by the assessor. Broad use classes may be identified for apartments, retail stores, offices, or various zoning categories. By determining broad use classes for each neighborhood, the assessor can compare unit values and establish base rates to treat all properties equitably.

The table below shows the recommended unit value for selected use classes.

Table 2-15. Recommended Unit Values for Selected Use Classes

For this use class	Use this unit value
Central business district	Front foot or square foot
Urban fringe businesses	Front foot or square foot
Retail or service strip centers	Front foot or square foot
Shopping centers	Square foot or acreage
Interchange areas	Square foot or acreage
Town centers	Front foot or square foot
Suburban office parks	Square foot or acreage
Urban renewal projects	Front foot, square foot, or acreage
Industrial corridors	Front foot or acreage
Industrial parks	Acreage
Rural industrials	Acreage
Apartment complexes	Square foot, acreage, or unit density
Parking accommodations	Front foot, square foot, unit density, or acreage

Determining the Building Density Ratio

For commercial and industrial parcels, the assessor analyzes each individual parcel to determine what portion of the parcel is considered improved and what portion of the parcel is considered undeveloped. Site size refers to the improved portion of the land which may encompass the entire parcel, multiple parcels, or a portion of a parcel.

Commercial and industrial properties contain certain site requirements for each specific property. These site requirements differ from use to use, or within the same use, because of variations in the size of the buildings. For example, a 40,000 square feet store requires more building space and parking area than a comparable store of 20,000 square feet. There is, within each use category, a definite relationship between the building size and the required site size, referred to as building density ratio. This ratio is calculated by dividing the area of the site by the gross floor area of the building. The result is rounded to one decimal point (the nearest tenth).

By analyzing the building density ratios throughout a defined neighborhood, the assessor develops a norm for that area. Each neighborhood could have a different norm based on the properties located within it. By thinking about the development of a community, the assessor can appreciate the need for identifying the different building density ratios associated with a community.

As commercial and industrial areas develop over a period of time, land requirements necessary to support the various businesses change. For years, downtown businesses have relied on limited on-street parking so the commercial structures normally were built to cover the entire area of a lot. As more automobiles clogged the downtown streets, many businesses began moving into recently constructed larger structures at the edge of town. To support these facilities, the owners provided adequate amounts of parking with pleasantly landscaped surroundings on larger tracts of land. These facilities served their purpose well, but as time passed and business patterns change, newer, larger, and more accessible complexes have been constructed to attract the contemporary uses. These complexes occupy large acreage tracts and provide efficient parking facilities, landscaped areas, and/or greenspaces. By analyzing the building density ratios of these various locations, the assessor can establish standards relative to the size requirements required to support the various uses by property use for each neighborhood. Each type of facility located within the area is compared against its established standard to determine the amount of the developed site which should be classified as primary land.

Example. An 80,000 square feet strip center occupying a five acre tract would have a building density ratio calculated by dividing 217,800 square feet (43,560 x 5 = 217,800) by the 80,000 square foot building (217,800 / 80,000 = 2.72, rounded to 2.7). By comparing this ratio to other strip centers ratios in the neighborhood, a standard is established by use category for each neighborhood. Once a standard is established, the assessor can apply it to other strip centers to determine how much of the improved site is to be classified as primary. No portion of the improved site shall be classified as secondary until the requirements of the building density ratio have been met.

Some taxing jurisdictions have an active zoning authority that issues certain building requirements based on the type of property being constructed. Care should be taken when consulting local zoning information during the analysis of a neighborhood's building density ratios. Zoning regulations normally mandate minimum land size and parking requirements which may, but do not necessarily correspond to the developed portions of all land. What is more, these regulations change periodically so an analysis using current regulations might misrepresent the actual situation in a specific neighborhood. It is more applicable to analyze the building sites within each defined neighborhood and develop the building density ratio standards based upon specific information obtained from the analysis.

Establishing Base Rates for Commercial and Industrial Land

To calculate the indicated base rate of small acreage tracts located among platted lots, the jurisdiction assessor must determine the value of the comparable adjoining lots and work backwards. The following examples illustrate the process of calculating acreage values and square foot values.

Example 1: For acreage values, Neighborhood #7 was platted with lots measuring 60 feet by 120 feet. The established value of the improved lots is $24,000. Scattered among these lots are small acreage tracts of .20 acre. They are slightly larger than the platted lots and reflect a slightly higher estimated value. The acreage rate for the platted lots is calculated by dividing $24,000 by the factor from the size adjustment table, for the equivalent size of the platted lots. The result is then divided by the acreage equivalent of the platted lots. ($24,000 ÷ 2.36 = $10,169 ÷ .165 acres = $61,630. To calculate the value of the .20 acre parcels, multiply the rate of $61,630 by the factor from the size adjustment table for .20 acres. Multiply the result by the parcel size.

($61,630 x 2.20 = $135,586 x .20 acres = $27,117).

Example 2: For acreage values, Neighborhood #7 is analyzed slightly differently to determine the square foot base rate**.** The platted lots contain 7,200 square feet and the value of the lots is $24,000. The square foot base rate is determined by first dividing the value of the lot by the size adjustment factor from the applicable table for the equivalent acreage size. The factor is 2.36 for a parcel size of .165 acres (60′ x 120′ = 7,200 square feet). The rate of $10,169 ($24,000 ÷ 2.36) is divided by the number of square feet to equal $1.41 per square foot ($10,169 ÷ 7200 square feet = $1.41). To calculate the value of the .20 acre parcels, multiply the square foot rate of $1.41 by the factor from the size adjustment table for .20 acres, and multiply the result by the parcel square footage ($1.41 x 2.20 = $3.10 x 8,712 square feet = $27,007).

To calculate the indicated value of larger acreage tracts, the assessor may analyze the land using one of the following methods:

- The **land development method** is normally more appropriate for newer commercial or industrial area because on-site development costs are attributed directly to the land using the latest construction costs available. The land development method entails adding the purchase price of vacant land to the on-site development costs. On large acreage tracts, the value of the development costs are attributed to the acres affected by the cost.

- The **comparison method** is more reliable when measuring the effects of location on various commercial and industrial properties. The comparison method compares properties of similar use against properties of compatible use. By establishing a broad range of use classes, such as zoning categories, land-to-building ratios, and current and probable uses, the assessor develops standards for each neighborhood. The standards determine the basis for comparison between the properties within the neighborhood and other neighborhoods. The assessor applies sales information or written qualified real estate professional estimates to the standards. The use of an appropriate unit value makes values comparable between the various neighborhoods.

Determining Influence Factors for Commercial and Industrial Land

Influence factors are applied to small tracts of commercial and industrial acreage in the same way that they are applied to platted lots. When the assessing official establishes base rates for a neighborhood, the assessor establishes rates for the base acreage tract. The calculated value of this base entity becomes the standard to which all remaining acreage tracts within the neighborhood are compared. Often, there are conditions peculiar to specific tracts within a neighborhood that must be analyzed on an individual basis. These conditions require the assessor to make an adjustment to the value of the tract. This adjustment is an influence factor.

"Influence Factor" refers to a condition peculiar to the lot that dictates an adjustment to the estimated value to account for variations from the base lot on which the base unit land value for the subject neighborhood is predicated. A single digit numeric code is used to indicate the nine most prevalent factors and provide for the application of other (code O) factors not elsewhere coded.

The examples below illustrate how to identify and calculate influence factors for commercial and industrial acreage.

Example 1: In a commercial neighborhood, there is a small acreage tract of less than 1 acre that is vacant and is being held for future development. The remaining tracts within the neighborhood are equal in size to the subject and are developed. The vacant small acreage parcel is considered unimproved and a negative influence factor adjustment equivalent to the cost of improving the parcel is applied to the parcel.

Example 2: The small acreage commercial tracts located in Neighborhood #32 are similar in size and used for commercial purposes. The base acreage value was established for the neighborhood to reflect the typical tract which is a parcel that has restricted access to the highway due to the small number of crossovers located in the highway. However, parcel Z, located at the intersection of the same highway and a similar highway, has very good access from both roads. The assessing official has determined through the analysis of a sale of a comparable corner tract that parcel Z has a higher value than the tracts used to establish the base value for the area. The assessor determines that a positive influence factor is necessary to adjust parcel Z's value. The difference between the higher value and the estimated value is expressed as a percentage and applied to parcel Z 's estimated value. The corner influence associated with parcel Z is the reason for assigning this positive influence factor adjustment.

Note: The procedures for calculating the front foot base rate and the true tax value of commercial platted lots is identical to the procedures for residential platted lots. Instructions are provided in the section ***Completing the Land Data and Computations Section of the Property Record Card for Platted Lots***.

Completing the Land Data and Computations Portion of the Property Record Card for Commercial and Industrial Acreage

This section describes how to complete the "Land Data and Computations" section of a commercial and industrial Property Record Card for commercial or industrial acreage tracts. The steps describe how to use the acreage method to calculate the value of the acreage. The steps for completing the property record card are grouped into two tasks, described in the sections below:

- Task 1—Record the necessary data for the lot.
- Task 2—Calculate the true tax value for the lot.

Note: The procedures for calculating the front foot base rate and the true tax value of commercial platted lots is identical to the procedures for residential platted lots. Instructions are provided in the section ***Completing the Land Data and Computations Section of the Property Record Card for Platted Lots*** in this chapter.

Task 1—Recording the Necessary Data

Space is provided on the commercial and industrial Property Record Card to compute the true tax value of platted lots and acreage tracts used for commercial or industrial purposes. Enter the data into a series of columns using one row per entry.

To enter the data for a commercial or industrial acreage, perform these steps:

STEP 1 In the "Land Type" column, enter the code corresponding to the land type classification of the entry. Table 2-16 describes the land type options for commercial and industrial acreage tracts.

Table 2-16. Land Type Options for Commercial and Industrial Acreage Tracts

This option	Indicates
11	The amount of land entered in the "Acreage" column is classified as commercial or industrial primary land
12	The amount of land entered in the "Acreage" column is classified as commercial or industrial secondary land
13	The amount of land entered in the "Acreage" column is classified as commercial or industrial usable undeveloped land
14	The amount of land entered in the "Acreage" column is classified as commercial or industrial unusable undeveloped land

STEP 2 In the "Acreage" column, enter the acreage (in acres) designated as each specific land type.

STEP 3 In the "Depth Factor" column, enter 1.00 as the acreage size adjustment factor for all commercial and industrial acreage tracts of one acre or more. For commercial and industrial acreage tracts of less than one acre, the size adjustment factor is derived by comparing the parcel acreage or square feet size to the Acreage Size Adjustment Table included in Table 2-11. This table compares smaller improved tracts of land to an established one acre standard. In the "Acre" column of the size adjustment table, locate the row corresponding to the actual size of the tract. Find the intersection of the selected row and the "Factor" column. Note the number that you find. This is the size adjustment factor for the tract.

STEP 4 In the "Base Rate" column, enter the acreage value as determined by the assessing official and approved by the Property Tax Assessment Board of Appeals.

STEP 5 In the "Influence Factor" column, indicate any condition peculiar to the acreage tract that requires an adjustment to the estimated value to account for variations from the norm, if necessary:

a. Enter the influence code to the left of the brackets.

b. Enter the percentage adjustment to the right of the brackets.

c. Within the brackets, enter a plus (+) to indicate an increase. Enter a minus (–) to indicate a decrease. Table 2-17 describes the influence factor codes. Information about determining influence factors is provided in the section ***Determining Influence Factors for Commercial and Industrial Land*** in this chapter.

Table 2-17. Influence Factor Codes for Commercial and Industrial Property

This code	Indicates
1 Topography	A decrease based on adverse topographical features.
2 Under Improved	A decrease based on the under improvement of landscaping, driveways and private walkways, and utility hookups.
3 Excess Frontage	A decrease based on the lower utility value of frontage that is significantly in excess of the base lot frontage.
4 Shape or Size	A decrease based on an irregularity in shape that limits the use of the parcel **or** a decrease for an oversized lot whose variations are not accounted for elsewhere. An increase based on an irregularity in shape that enhances the use of the parcel **or** an increase for an undersized lot whose variations are not accounted for elsewhere.
5 Misimprovement	A decrease indicating a lot that has been valued higher than its current use. The value must be lowered to the level of comparable properties in the subject neighborhood.
6 Restrictions	A decrease based on encumbrances, restrictive covenants, or obstructions that limit the use of the land.
7 Traffic Flow	A decrease to account for the nuisance of significantly heavier traffic flow that affects the base lot and is not considered in the base lot value.
8 View	A decrease to account for variations in view from the subject lot and not from the base lot that detracts from the subject lot. An increase to account for variations in view from the subject lot and not from the base lot that enhances the subject lot.
9 Corner Influence	A decrease to account for building restrictions, such as double set backs and increased traffic flow, that detract from the subject lot and are not considered in the base lot value. An increase to account for building restrictions, such as double set backs and increased traffic flow, that offer commercial benefits and are not considered in the base lot value.

O Other	An influence, not described above, such as the following. Describe the factor in the memorandum section. ■ **Golf course**—An increase to account for a particular location enhancement, not characteristic of the base lot. ■ **Water frontage—**An increase to account for proximity to a water front, not characteristic of the base lot. ■ **Cul-de-sac**—An increase to account for shape or size enhancements due to a cul-de-sac location, not characteristic of the base lot. ■ **Location—**An increase or decrease to account for the influence of a particular location and not considered in the base lot. ■ **Soil conditions**—A decrease to account for adverse soil conditions that prohibit the subject lot being used the same as the base lot. ■ **Drainage**—A decrease to account for drainage limitations, indicated by standing water, not characteristic of the base lot. ■ **Flooding susceptibility**—A decrease to account for a lot or a portion of a lot being in a flood plain, not characteristic of the base lot. ■ **Noise nuisance**—A decrease to account for extraneous noise or other such nuisances not characteristic of the base lot. ■ **Excess depth**—A decrease to account for a disproportionate frontage depth not accounted for in the size adjustment factor. ■ **Limited access**—A decrease to account for ingress or egress limitations not characteristic of the base lot.

STEP 6 Repeat Step 1 through Step 5 for each commercial or industrial acreage tract entry.

Task 2: Calculating the True Tax Value

To calculate the true tax value for the commercial or industrial acreage, perform these steps:

STEP 1 Calculate the adjusted rate for the commercial or industrial acreage tract entry by multiplying the base rate by the size adjustment factor:

Adjusted rate = Base rate x Size Adjustment factor

Round the adjusted rate to the nearest $1.

STEP 2 Calculate the estimated value of the entry by multiplying the acreage or square footage by the adjusted rate:

Estimated value = Adjusted Rate x Acreage or Square Footage

Round the estimated value to the nearest $10.

STEP 3 Calculate the true tax value of the entry by adjusting the estimated value by the influence factor:

True tax value = Estimated value x (1.00 - Influence factor percentage)

Round the true tax value to the nearest $10.

Note: A positive influence factor would be an addition to the influence factor percentage of 1.00. If there is no influence factor, the true tax value is the same as the estimated value.

STEP 4 Perform Step 1 through Step 3 for each commercial and industrial acreage entry.

Example 1: A small acreage parcel of .74 acres is developed with a commercial business. The acreage base rate for the neighborhood has been established at $120,000 per acre.

- The size adjustment factor for .74 acres is 1.26.
- The assessing official determines the base rate for the neighborhood to be $120,000.
- The adjusted base rate for the parcel is

Adjusted Base Rate = Base Rate x Size Adjustment Factor

$151,200 = $120,000 x 1.26

- The estimated value of the acreage is

Estimated Value = Adjusted Base Rate x Acreage Size

$111,890 = $151,200 x .74

Example 2: A 10-acre industrial parcel contains a small manufacturing facility. The parcel has six acres designated as primary land and four acres designated as undeveloped usable land. The average base rate for this industrial neighborhood is $25,000 per acre for the primary land and $20,000 per acre for the undeveloped usable land.

- The base rates are
- $25,000 for the primary land
- $20,000 for the undeveloped usable land
- The adjusted base rates are

Adjusted Base Rate = Base Rate x Size Adjustment Factor

Primary = $25,000 = $25,000 x 1.00

Undeveloped Usable = $20,000 = $20,000 x 1.00

- The estimated values are

Estimated Value = Adjusted Base Rate x Acreage Size

Primary = $150,000 = $25,000 x 6.00 acres

Undeveloped Usable = $80,000 = $20,000 x 4.00 acres

Valuing Agricultural Land

The agricultural land assessment formula involves the identification of agricultural tracts using data from detailed soil maps, aerial photography, and local plat maps. Each variable in the land assessment formula is measured using appropriate devices to determine its size and effect on the parcel's assessment. Uniformity is maintained in the assessment of agricultural land through the proper use of soil maps, interpreted data, and unit values.

In order to apply the agricultural land assessment formula, you need to understand the following topics, which are discussed in the sections below:

- agricultural land base rate values
- assessment of agricultural land
- units of measurement for agricultural land

- classification of agricultural land into land use types
- use of soil maps
- calculating the soil productivity index
- valuation of strip mined agricultural land
- valuation of oil and gas interests

Agricultural Land Base Rate Value

The ~~2011~~ 2019 general reassessment agricultural land value utilizes the land's current market value, which is based on the productive capacity of the land, regardless of the land's potential or highest and best use. The most frequently used valuation method for use-value assessment is the income capitalization approach. In this approach, use-value is based on the residual or net income that will accrue to the land from agricultural production.

As illustrated in the following equation, the market value of agricultural land is calculated by dividing the net income of each acre by the appropriate capitalization rate.

Market value = Net Income ÷ Capitalization Rate

The net income of agricultural land can be based on either the net operating income or the net cash rent. Net operating income is the gross income received from the sale of crops less the variable costs (i.e. seed and fertilizer) and fixed costs (i.e. machinery, labor, property taxes) of producing crops. The net cash rent income is the gross cash rent of an acre of farmland less the property taxes on the acre. Both methods assume the net income will continue to be earned into perpetuity.

The capitalization rate converts the net income into an estimate of value. The capitalization rate reflects, in percentage terms, the annual income relative to the value of an asset; in this case agricultural land. Conceptually, this capitalization rate incorporates the required returns to various forms of capital, associated risks, and the anticipated changes over time.

Since agricultural land in Indiana is nearly evenly divided between cash rent and owner-occupied production, the Department utilized a six-year rolling average of both methods in determining the market value of agricultural land. The capitalization rate applied to both types of net income was based on the annual average interest rate on agricultural real estate and operating loans in Indiana for this same period. The table below summarizes the data used in developing the average market value.

Table 2-18 Agricultural Land Value

	NET INCOMES			MARKET VALUE IN USE		
Year	Cash Rent	Operating	Cap. Rate	Cash Rent	Operating	Average
~~2005~~2013	~~110~~204	~~60~~341	~~7.22~~8.00%	~~1,524~~2,550	~~831~~4,263	~~1,177~~3,406
~~2006~~2014	205	171	8.00%	2,563	2,138	2,350
~~2007~~2015	198	-39	8.00%	2,475	-488	994
~~2008~~2016	173	75	8.00%	2,163	938	1,550
~~2009~~2017	175	30	8.00%	2,188	375	1,281
~~2010~~2018	181	79	8.00%	2,263	988	1,625

Assessing Agricultural Land

The agricultural land assessment formula involves identifying agricultural tracts using data from a detailed soil map, aerial photography, and local plat maps. Each variable of the land assessment formula is measured using various devices to determine its size and effect on the parcel's assessment. The proper use of the soil maps, interpreted data, and unit values results in greater uniformity in the assessment process of agricultural lands.

Indiana Code section 6-1.1-4-13(a) declares, **"In assessing or reassessing land, the land shall be assessed as agricultural land *only when it is devoted to agricultural use*"** [emphasis added]. Indiana Code section 6-1.1-4-13~~(d)~~(e) states, "This section does not apply to land purchased for industrial or commercial uses."~~, commercial, or residential uses."~~

Pursuant to Indiana Code section 6-1.1-4-13, land "devoted to agricultural use" shall be assessed as agricultural land. However, land "***purchased for***" an industrial or~~,~~ commercial~~, or residential~~ uses shall not be assessed as agricultural land. Additionally, all land ***utilized*** for agricultural purposes is valued as agricultural land -- using a statewide base rate and a soil productivity index system. Unless provided elsewhere in the law, the Manual, or Guidelines, the parcel's size does not determine the property classification or pricing method for the parcel. Rather, the property classification and pricing method are determined by the property's use or zoning. For example, some commercial and industrial zoned acreage tracts devote a portion of the parcel to an agricultural use. The assessing official must classify these parcels as either commercial or industrial. However, the portions of land devoted to agricultural use are to be valued using the agricultural land assessment formula. Portions not used for agricultural purposes are to be valued using the commercial and industrial acreage guidelines. To illustrate:

(1) A major industrial corporation purchased a 40 acre cornfield to locate a corn processing facility in Indiana. After undergoing the local zoning process, the entire parcel was re-zoned from agricultural zoning to industrial zoning. The corporation has utilized 15 acres of the parcel by constructing a manufacturing and warehouse facility with the idea that the remaining 25 acres would be available for future expansion, if necessary. The 25 acres in reserve is currently being cash rented to a local agricultural producer, who row-crops the acreage.

Conclusion: The assessor should assign a property classification of 310 - Food and Drink Processing Facility - to the 40 acre parcel. The 15 acre portion of the acreage that is utilized for industrial purposes should be assigned land use codes representing the industrial acreage base rates for that particular area of the jurisdiction. The 25 acre portion of the parcel that is being row-cropped by the local farmer should be priced using the agricultural productivity method of pricing. The 25 acres would have the soil types delineated by soil type, have each type soil analyzed for its land cover class, and have its assessment calculated using the agricultural base rate.

-**(2)** The ACME Development Company purchased a 30 acre parcel of land that was being used for agricultural purposes. ACME appeared before the local zoning officials and received a zoning change for the front 10 acres as to be commercial retail, and the rear 20 acres, which has access from an adjoining state highway, was zoned for a commercial office. ACME immediately began constructing a retail shopping complex on the front 10 acres of the parcel. The 20 acres is being cash rented to a local farmer, but is offered for sale by a local real estate broker.

Conclusion: The 30 acre parcel should have a property class designation of 326 -- Neighborhood Shopping Center assigned to it. The front 10 acre commercial portion of the parcel should be valued using the commercial acreage base rate for this area of the jurisdiction. The rear 20 acres that is being farmed should be priced using the agricultural productivity method of pricing. The 20 acres should have the soil types delineated by soil type, have each type soil analyzed for its land cover class, and have its assessment calculated using the agricultural base rate for that particular year.

-**(3)** The Good Development (GDC) purchased a 20 acre parcel that was being used for agricultural purposes and had a property class code of 100 – Vacant land. The agricultural productivity method of calculating an assessment valued the parcel at $22,800 at the time of the purchase in October ~~2007~~2018. GDC purchased the land for the purpose of platting and developing a 40 lot residential subdivision. Once the local Area Planning Commission granted approval for the subdivision and changed the zoning from agricultural to residential, GDC did all the necessary paperwork and filed the plat with the county recorder's office in February 2008.

Conclusion: For ~~March 1, 2008~~January 1, 2019, the county auditor follows Indiana Code section 6-1.1-5-3 and assigns parcel numbers to the 40 lots indicated on the plat of the subdivision and notifies the assessing official that the 20 acre parcel has become 40 lots, which need to be assessed for ~~March 1,~~

~~2008~~January 1, 2019. The assessing official acknowledges that GDC is the developer by reviewing the plat and, based on Indiana Code section 6-1.1-4-12~~(h)~~(i), knows that the overall assessment cannot be increased because the acreage has become 40 platted lots. However, the agricultural base rate within the agricultural productivity formula has increased from $1,140 to $1,200 for ~~March 1, 2008~~January 1, 2019. Before removing the 20 acre parcel from the computer system, the assessor recalculates an assessment for that parcel using the new 2008 rate of $1,200. The True Tax Value for this particular 20 acre parcel would equal $24,000, if not platted into the 40 lots. Based on the language of Indiana Code section 6-1.1-4-12~~(h)~~(i), each of the 40 parcels would have an assessed value of $600 ($24,000 / 40 lots = $600 per lot). The application of this True Tax Value can be achieved in either of two ways:

(a) a flat value amount of $600 can be applied to each of the 40 property record cards; or

(b) the assessing official can calculate the assessment by determining the lots size of each parcel, applying a front foot or acreage base rate that calculates the applicable 2019~~08~~ value of improved land in the extended value area of the land summary section of the property record card, and granting influence factor adjustments to each parcel that makes the value of each parcel equal to $600 per lot.

Land purchased and used for an agricultural purpose qualifies for all land use types associated with the agricultural classification and agricultural soil productivity method of pricing. This includes cropland or pasture land (i.e., tillable land) as well as woodlands

Indiana Code section 6-1.1-4-12 states that if land assessed on an acreage basis (i.e., agricultural land) is subdivided into lots; or land is rezoned for, or put to, a different use, the land shall be reassessed on the basis of its new classification. If improvements are added to real property, the improvements shall be assessed. Such an assessment or reassessment is effective on the next assessment date. For example, a corporation that purchased farmland, subdivided it into residential lots, and sold all but one lot, retaining ownership and converting that vacant lot into an income-producing shopping center, was not entitled to retain the lot's agricultural classification for property tax purposes. The land was properly re-classified from "agricultural" to "commercial" to reflect the land's change in use. *See Aboite Corp. v. State Bd. of Tax Com'rs*, 762 N.E.2d 254 (Ind. Tax Ct. 2001); *see also Howser Development LLC v. Vienna Twp Assessor*, 833 N.E.2d 1108 (Ind. Tax Ct. 2005).

However, Indiana Code section 6-1.1-4-12~~(h)~~(i) and ~~(i)~~(j), added by Public Law 154-2006, clarifies the "developer's discount" for assessments. The "developer's discount" is designed to encourage developers to buy farmland, subdivide into lots, and resell the lots. A lot, or a tract that has not been subdivided into lots, to which a land developer holds title in the ordinary course of its business, may *not* be reassessed until the next assessment date following the earliest of:

> **(1)** the date on which title to the land is transferred by the land developer (or successor land developer) to a person that is not a land developer; or
>
> **(2)** the date on which construction of a structure begins on the land; or
>
> **(3)** the date on which a building permit is issued for construction of a building or structure on the land.

The "developer's discount" applies regardless of whether the lot or tract is rezoned while a land developer holds title to the land. Thus, until one of the aforementioned events occurs, the land developer "reaps the benefit" of the lower agricultural land assessment.

Therefore, the controlling factors that determine whether land is to be assessed as agricultural land are whether the land was purchased for a non-agricultural use, and whether the land is currently used or zoned for an agricultural purpose; however, in some instances, the "developer's discount" may apply and reassessment of the land may not occur until transfer of title to a non-developer, the start of construction of a building, or the issuance of a construction permit.

The definition of "agricultural land" provides ample basis for the vast majority of assessor decisions. These guidelines were adopted as directed in IC 6-1.1-4-13~~(c)~~(d) and incorporated by reference into 50 IAC ~~2.3~~2.4-1-2.

IC 6-1.1-4-13
Agricultural land; assessment

Sec. 13. (a) In assessing or reassessing land, the land shall be assessed as agricultural land only when it is devoted to agricultural use.

(b) For purposes of this section, and in addition to any other land considered devoted to agricultural use, any:

- **(1)** land enrolled in:
  - **(A)** a land conservation or reserve program administered by the United States Department of Agriculture;
  - **(B)** a land conservation program administered by the United States Department of Agriculture's Farm Service Agency; or
  - **(C)** a conservation reserve program or agricultural easement program administered by the United States Department of Agriculture's National Resources Conservation Service;
- **(2)** land enrolled in the department of natural resources' classified forest and wildlands program (or any similar or successor program);
- **(3)** land classified in the category of other agriculture use, as provided in the department of local government finance's real property assessment guidelines; or
- **(4)** land devoted to the harvesting of hardwood timber;

is considered to be devoted to agricultural use. Agricultural use for purposes of this section includes but is not limited to the uses included in the definition of "agricultural use" in IC 36-7-4-616(b), such as the production of livestock or livestock products, commercial aquaculture, equine or equine products, land designated as a conservation reserve plan, pastureland, poultry or poultry products, horticultural or nursery stock, fruit, vegetables, forage, grains, timber, trees, bees and apiary products, tobacco, other agricultural crops, general farming operation purposes, native timber lands, or land that lays fallow. Agricultural use may not be determined by the size of a parcel or size of a part of the parcel. This subsection does not affect the assessment of any real property assessed under IC 6-1.1-6 (assessment of certain forest lands), IC 6-1.1-6.2 (assessment of certain windbreaks), or IC 6-1.1-6.7 (assessment of filter strips).

(c) The department of local government finance shall give written notice to each county assessor of:

(1) the availability of the United States Department of Agriculture's soil survey data; and

(2) the appropriate soil productivity factor for each type or classification of soil shown on the United States Department of Agriculture's soil survey map.

All assessing officials and the property tax assessment board of appeals shall use the data in determining the true tax value of agricultural land. However, notwithstanding the availability of new soil productivity factors and the department of local government finance's notice of the appropriate soil productivity factor for each type or classification of soil shown on the United States Department of Agriculture's soil survey map for the March 1, 2012, assessment date, the soil productivity factors used for the March 1, 2011, assessment date shall be used for the January 1, 2016, assessment date and each assessment date thereafter.

(d) The department of local government finance shall by rule provide for the method for determining the true tax value of each parcel of agricultural land.

(e) This section does not apply to land purchased for industrial or commercial uses.

There is a subtle distinction between residential acreage tracts and land valued using the agricultural soil productivity method. The basis for this distinction is the different valuation methods used to determine land value for the two types of land. "Agricultural land" is valued using a statewide base rate and a soil productivity index system. All land utilized for agricultural purposes is valued in this manner. "Residential land" is land that is utilized or zoned for residential purposes.

Other References

a. Assessors are further directed that all acres enrolled in programs of the United States Department of Agriculture (USDA), Farm Services Agency, and Natural Resources Conservation Service and have received a "farm number" are eligible for classification as "agricultural." Those acres have been determined by those administering federal programs to be a part of an "agricultural operation." This applies to non-homestead acreage.

b. As further evidence of the proper classification of woodlands as agricultural land, the Indiana State Department of Agriculture (ISDA) considers the growing of timber as an agricultural activity by identifying the need to "increase Indiana's competitiveness in the hardwood sector" as one of its eight major strategies. The Department's practices and rules support the assertion that the growing of timber is a viable Indiana agricultural crop and should be assessed as such.

c. The Department recognizes that certain circumstances may blur the line between the residential property class designation and the agricultural designation when wooded areas are involved. In the preparation of this memorandum, the Department has consulted with the Department of Natural Resources (DNR). The DNR monitors Indiana's timberland and classified forest programs. In its implementation of the Classified Forest and Wildland Certification Program authorized in IC 6-1.1-6, participating woodland owners with 10 acres or more automatically qualify for the American Tree Farm System's certification benefits, which include marketing the forest's products as "green certified." The Classified Forest and Wildland Program materials also state that timber harvest is not required to qualify for the classification program. The Department believes that the guidelines used for the classified program are applicable when distinguishing agricultural use from non-agricultural use, but other agricultural uses may qualify a parcel for the productivity method of valuation.

Parcel Size

As stated above, the issue of parcel size has no bearing on the appropriate classification or pricing method of agricultural land, whether the parcel is wooded or used for other agricultural activities.

Other Agricultural Uses

a. A 40 acre parcel, which at one time was a small farm, has since become a mixture of small, scattered trees and brush with less than 50% canopy cover. The assessor classified this parcel as residential excess acreage; the effect of which created a higher assessed value and tax burden than the agricultural soil productivity method.

Conclusion: The current owner purchased the parcel as an agricultural property many years ago. The land is currently uncultivated or fallow, but has not changed use nor been re-zoned. This parcel should continue to be classified as agricultural as it was purchased for agricultural use and is used as "non-tillable land" as defined in the *Guidelines*.

b. A five acre parcel has a one acre homesite and cattle grazing on the remaining four acres. The assessor classified the four acres using the residential excess acreage rate and refuses to acknowledge the presence of grazing cattle as an agricultural activity because the parcel is less than 10 acres. The county has an unofficial policy of denying agricultural classification to parcels of less than 10 acres.

Conclusion: The grazing of cattle is an agricultural activity; thus, the parcel should be assessed using the agricultural productivity method as it meets the definition of "agricultural operation" in IC 32-30-6-1 and in the *Guidelines*, which define agricultural "tillable land" as land used "for cropland or pasture that has no impediments to routine tillage." The size of the parcel has no bearing on the determination of agricultural classification.

c. A five acre parcel has a one acre home site and the remaining four acres is devoted to hay production. The county classified the hay field using the residential excess acre rate. The owner has a signed statement from a neighboring dairy farmer that the neighbor harvests the hay from the field for his cattle.

Conclusion: The acreage meets the criteria of agricultural "tillable land" as defined in the *Guidelines*. The four acres should be priced using the agricultural soil productivity method. The size of the parcel has no bearing on the determination of agricultural classification.

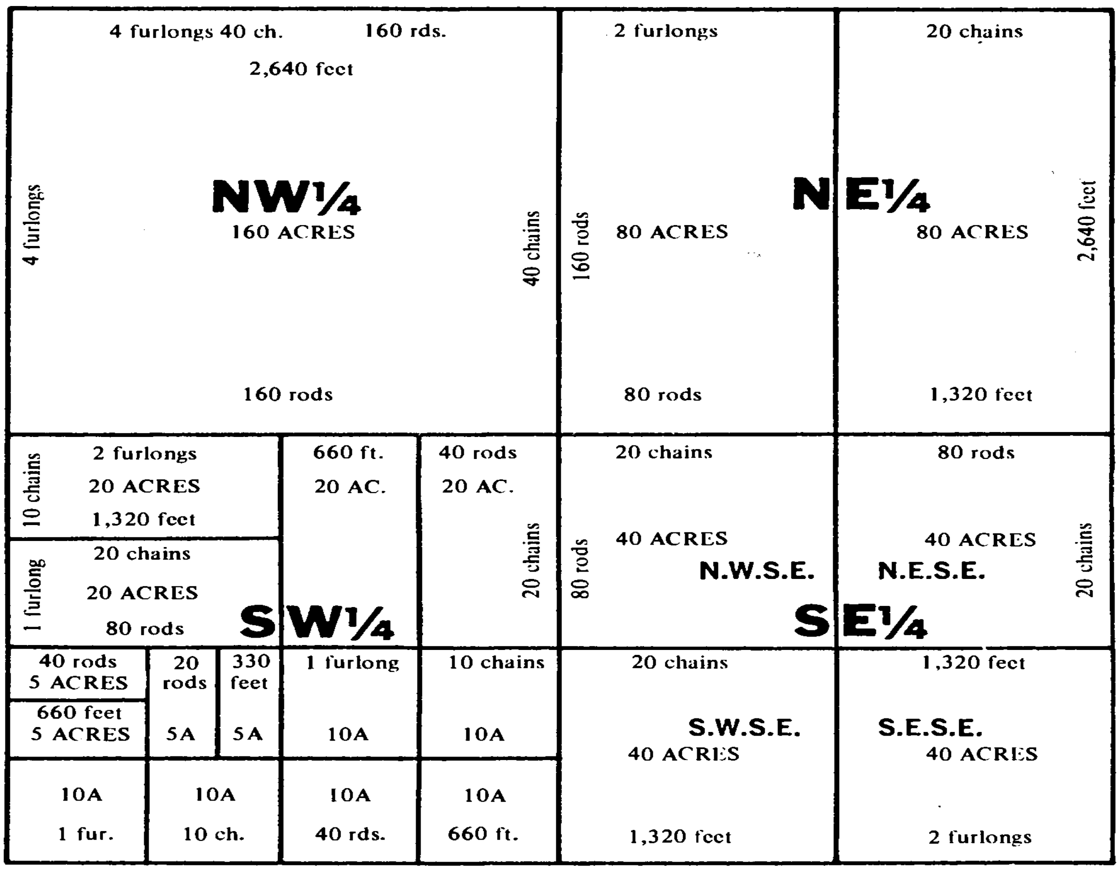
Converting Units of Measurement for Agricultural Land

Figure 2-14 shows the units of measurement commonly used to measure agricultural land. Table 2-19 describes equivalencies for these units of measurement

SECTION OF LAND/MEAS

MAP OF SECTION OF LAND SHOWING ACREAGE AND DISTANCE

SEC. = 1 SQ. MILE = 640 ACRES



1 MILE = 8 FURLONGS

1 LINK = 7.92 inches
1 FOOT = 12 inches

1 YARD = 36 in. or 3 ft.

1 ROD OR POLE = 16.5 ft.
5.5 yds.
25 links

1 CHAIN = 66 ft.
100 links
4 rods

1 FURLONG = 40 rods
660 ft.

1 MILE = 5,280 ft.
320 rods
80 chains
8 furlongs

320 RODS = 5,280 FEET

1 SQUARE FOOT = 144 sq. inches
1 SQUARE YARD = 9 sq. feet

1 SQUARE ROD = 272.25 sq. feet
30.25 sq. yards

1 ACRE = 43,560 sq. feet
160 sq. rods
10 sq. chains

1 ACRE is about 208.7 ft. sq. or 8 rods wide by 20 rods long or any two numbers of rods whose product is 160 (25 x 125 ft.) = .0717 of an acre.

1 SQUARE MILE OR
1 SECTION EQUALS 640 ACRES

1 TOWNSHIP = 36 sq. miles
OR 36 sections

1 TOWNSHIP = 6 MILES SQ.

Figure 2-14. Example of Agricultural Land Measurements

Table 2-19. Agricultural Land Measurement Equivalencies

This linear measurement	Equals	This area measurement	Equals
1 link	7.92 inches	1 sq. foot	144 sq. inches
1 foot	12 inches	1 sq. yard	9 sq. feet
1 yard	36 inches 3 feet	1 sq. rod	272.25 sq. feet 30.25 sq. yards
1 rod or 1 pole	25 links 16.5 feet 5.5 yards	1 acre	43, 560 sq. feet 160 sq. rods 10 sq. chains
1 chain	100 links 4 rods 16.5 feet	1 sq. mile or 1 section	640 acres
1 furlong	40 rods 660 feet	1 jurisdiction	36 sq. miles 36 sections
1 mile	320 rods 80 chains 8 furlongs 5,280 feet		

Note: One acre is equivalent to an area of about 208.7 feet by 208.7 feet, 8 rods by 20 rods, or X rods by Y rods where X x Y = 160. One jurisdiction is equivalent to an area of 6 miles by 6 miles.

Classifying Agricultural Land into Land Use Types

Agricultural land is categorized according to its land use type and soil identification. The following land use types, described in the sections below, apply to agricultural acreage:

- Type 2—C~~c~~lassified ~~land~~Land
- Type 4—~~tillable~~ Tillable ~~land~~Land
- Type 5—~~nontillable~~ Nontillable ~~land~~Land
- Type 6—~~woodland~~Woodland
- Type 7—~~other~~ Other ~~farmland~~Farmland
- Type 8—~~agricultural~~ Agricultural ~~support~~ Support ~~land~~Land
- Type 9—H~~h~~omesite

Note: Agricultural land use types usually are measured from aerial photographs.

Type 2—Classified Land

Classified land is land that has been applied for and approved for specific programs administered by the Indiana Department of Natural Resources (DNR) or the county surveyor. A 100% influence factor deduction applies to classified land. The following table describes the subtypes of classified land.

Table 2-20. Classified Land Subtypes

This subtype	Indicates
Type 21	Classified F~~f~~orest
Type 22	~~Wildlands~~ Wildlife Habitat
Type 24	Windbreak
Type 25	Filter S~~s~~trip

Pursuant to Indiana Code section 6-1.1-6-6, **forest land** and other land may be classified and assessed if the land satisfies the conditions prescribed for classification as native forest land, a forest plantation, or wildlands.

Land may be classified as a forest plantation if it is cleared land which has growing on it a good stand of timber producing trees as that concept is understood by a district forester or a professional forester. A new forest plantation must have at least four hundred (400) timber producing trees per acre. The trees may be any size but must be well established.

Land may be classified as **wildlands** if it contains one (1) or more of the following:

-**(1)** Grasslands that are dominated by native grasses or intermixed with other native herbaceous vegetation.

-**(2)** Wetlands that support a prevalence of native vegetation adopted for saturated conditions.

-**(3)** Early forest successional stands that are dominated by native herbaceous and woody vegetation that will develop into native forest land.

-**(4)** Other lands the department determines is capable of supporting wildlife and conducive to wildlife management.

-**(5)** A body of water.

Land may be classified as **native forest land** if it contains at least forty (40) square feet of basal area per acre or at least one thousand (1,000) timber producing trees, of any size, per acre.

A parcel of land may not be classified as **native forest land, a forest plantation, or wildlands** unless it contains at least ten (10) contiguous acres. The parcel may be of any shape but must be at least fifty (50) feet in width.

A parcel of land may not be classified as **native forest land, a forest plantation, or wildlands** if a dwelling or other building is situated on the parcel. A parcel of land may not be classified as native forest land, a forest plantation, or wildlands if it is grazed by domestic animals or confined nondomesticated animals.
Land classified as **native forest land, a forest plantation, or wildlands** shall be assessed ~~at one dollar ($1) per acre for general property taxation purposes.~~as follows:

(1) At thirteen dollars and twenty-nine cents ($13.29) per acre for general property taxation purposes, for the January 1, 2017 assessment date.

(2) At the amount per acre determined in the following STEPS for general property taxation purposes, for an assessment date after January 1, 2017:

STEP ONE: Determine the amount per acre under this section for the immediately preceding assessment date.

STEP TWO: Multiply the STEP ONE amount by the result of:

(A) one (1); plus

(B) the annual percentage change in the Consumer Price Index for All Urban Consumers published by the federal Bureau of Labor Statistics for the calendar year preceding the calendar year before the assessment date.

If any oil, gas, stone, coal, or other mineral is obtained from land which is classified as native forest land, a forest plantation, or wildlands, the parcel shall immediately be assessed for the oil, gas, stone, coal, or other mineral wealth. The assessed value of the mineral wealth shall then be placed on the tax duplicate.

Pursuant to Indiana Code section 6-1.1-6.2-3, a parcel of land may be classified as a ~~field~~ **windbreak** if:

(1) it abuts a fence line or a property line;

(2) it abuts arable land;

(3) the landowner enters into an agreement with the department of natural resources establishing standards of windbreak management for the parcel of land as that concept is understood by competent professional foresters;

(4) it is at least fifty (50) feet wide;

(5) it does not contain a dwelling or other usable building; and

(6) no part of it lies within a licensed shooting preserve.

Land that is classified as a **windbreak** shall be assessed ~~at one dollar ($1) per acre for general property taxation purposes.~~as follows:

(1) At thirteen dollars and twenty-nine cents ($13.29) per acre for general property taxation purposes, for the January 1, 2017 assessment date.

(2) At the amount per acre determined in the following STEPS for general property taxation purposes, for an assessment date after January 1, 2017:

STEP ONE: Determine the amount per acre under this section for the immediately preceding assessment date.

STEP TWO: Multiply the STEP ONE amount by the result of:

(A) one (1); plus

(B) the annual percentage in the Consumer Price Index for All Urban Consumers published by the federal Bureau of Labor Statistics for the calendar year preceding the calendar year before the assessment date.

However, ditch assessments on the classified land shall be paid. If any oil, gas, stone, coal, or other mineral is obtained from land that is classified as a windbreak, the parcel shall immediately be assessed for the oil, gas, stone, coal, or other mineral wealth. The assessed value of the mineral wealth shall then be placed on the tax duplicate.

In accordance with IC 6-1.1-~~6-~~6.7-1, **filter strip** refers to a strip or an area of vegetation for removing sediment, organic matter and other pollutants from runoff and wastewater. A parcel of land may be classified as a filter strip if the parcel of land meets all of the following requirements:

(1) The parcel of land is adjacent to an:

(A) open water course such as a ditch, creek, or river; or

(B) open body of water such as a wetland or lake.

(2) The parcel of land is at least twenty (20) feet wide but not more than seventy-five (75) feet wide.

(3) The parcel of land does not contain a dwelling or other usable building.

(4) The parcel of land is not used for livestock grazing.

(5) No part of the parcel of land lies within a licensed shooting preserve.

(6) The landowner enters into an agreement with the:

(A) drainage board of jurisdiction along regulated drains; and

(B) county surveyor along nonregulated drains;

with concurrence of the local soil and water conservation district offices.

Land that is classified as a **filter strip** shall be assessed ~~at one dollar ($1) per acre for general property taxation purposes.~~as follows:

(1) At thirteen dollars and twenty-nine cents ($13.29) per acre for general property taxation purposes, for the January 1, 2017 assessment date.

(2) At the amount per acre determined in the following STEPS for general property taxation purposes, for an assessment date after January 1, 2017:

STEP ONE: Determine the amount per acre under this section for the immediately preceding assessment date.

STEP TWO: Multiply the STEP ONE amount by the result of:

(A) one (1); plus

(B) the annual percentage change in the Consumer Price Index for All Urban Consumers published by the federal Bureau of Labor Statistics for the calendar year preceding the calendar year before the assessment date.

However, ditch assessments on the classified land shall be paid. If any oil, gas, stone, coal, or other mineral is obtained from land that is classified as a filter strip, the parcel shall immediately be assessed for the oil, gas, stone, coal, or other mineral wealth. The assessed value of the mineral wealth shall then be placed on the tax duplicate.

Type 4—Tillable Land

Tillable land is land used for cropland or pasture that has no impediments to routine tillage. Cropland is:

- land used for production of grain or horticultural crops such as:
  - corn
  - soybeans
  - wheat
  - rotation pasture
  - hay
  - vegetables
  - orchard crops

~~corn~~

~~soybeans~~

~~wheat~~

~~rotation pasture~~

~~hay~~

~~vegetables~~

~~orchard crops~~

- land used for cover crops

- land in summer fallow
- idle cropland
- land used for Christmas tree plantations
- land used for nursery plantings.

If tillable land is classified as farmed wetlands or experiences flooding from a nearby river or stream causing substantial damage or loss of crops between April and November, it is classified by subtype. The table below describes the subtypes of tillable land.

Table 2-21. Tillable Land Subtypes

This subtype	Indicates
Type 41	Land flooded occasionally—damaging floods occur two to four times in a ten-year period. A 30% influence factor deduction applies to this land use type.
Type 42	Land flooded severely—damaging floods occur five times or more in a ten-year period. A 50% influence factor deduction applies to this land use type.
Type 43	Farmed wetlands—land that the U.S. Department of Agriculture has designated as farmed wetlands. This land type applies only to areas of contiguous land measuring 2.5 acres or more. This land use type must be verified through records obtained from the U.S. Department of Agriculture, Farm Service Agency. A 50% influence factor deduction applies to this land use type.

Type 5—Nontillable Land

Nontillable land is land covered with brush or scattered trees with less than 50% canopy cover, or permanent pasture land with natural impediments that deter the use of the land for crop production. A 60% influence factor deduction applies to nontillable land.

Type 6—Woodland

Woodland is land supporting trees capable of producing timber or other wood products. This land has 50% or more canopy cover or is a permanently planted reforested area. This land use type includes land accepted and certified by the Indiana Department of Natural Resources (DNR) as forest plantation under guidelines established to minimize soil erosion. An 80% influence factor deduction applies to woodland.

A wooded parcel of land less than 10 acres may be assessed using the agricultural soil productivity method upon evidence of timber production or other agricultural use. In addition, smaller than 10 acre parcels not contiguous with other wooded parcels under the same ownership may qualify as "agricultural." Of assistance to the assessor in determining the classification is evidence of enrollment in programs which assign a "farm number" or programs designed to foster timber production management. The determining factors are provided in Indiana Code section 6-1.1-4-13, the Manual, and Guidelines. Of particular interest to the assessing official is the reason for the purchase of the land.

While not controlling in the assessing official's determination, the following factors may be of assistance:

(1) the acreage is designated by the DNR as qualifying for one of their classified programs. The DNR has established a 10 acre minimum for its programs;~~ and~~

(2) the owner can show an active timber management program in place which will improve the marketability of the forest for an eventual harvest;~~ and~~

(3) the owner possesses a DNR management plan to further enhance the forest quality; and

(4) the owner can show that regular forest harvests have occurred over a long time period.

~~*Woodland*~~

~~a. "Woodland" is defined as "land supporting trees capable of producing timber or other wood products. This land has 50% or more canopy cover or is a permanently planted reforested area. This land use type includes land accepted and certified by the Indiana Department of Natural Resources as forest plantation under guidelines established to minimize soil erosion. An 80% influence factor deduction applies to woodland."~~

~~b. A wooded parcel of land less than 10 acres may be assessed using the agricultural soil productivity method upon evidence of timber production or other agricultural use. In addition, smaller than 10 acre parcels not contiguous with other wooded parcels under the same ownership may qualify as "agricultural." Of assistance to the assessor in determining the classification is evidence of enrollment in programs which assign a "farm number" or programs designed to foster timber production management. The determining factors are provided in IC 6-1.1-4-13 and the *Guidelines*. Of particular interest to the assessor is the reason for the purchase of the land.~~

~~c. A wooded parcel of land over 10 acres shall be classified and valued as agricultural land using the same methods and considerations outlined above.~~

~~d. While not controlling in the assessor's determination, the following factors may be of assistance:~~

~~(1) the acreage is designated by the DNR as qualifying for one of their classified programs. The DNR has established a 10 acre minimum for its programs;~~

~~(2) the owner can show an active timber management program in place which will improve the marketability of the forest for an eventual harvest;~~

~~(3) the owner possesses a DNR management plan to further enhance the forest quality; and~~

~~(4) the owner can show that regular forest harvests have occurred over a long time period.~~

Woodland Examples

a. A seven (7) acre parcel of land that comprises a one acre home site and six acres of woods. The property owner claims that the six acres of woods should be assessed at the agricultural rate because the increase in the assessment caused by the residential "excess acreage" classification is exorbitant. The owner acknowledges that there is no timber management plan in-place. He bought the seven acre parcel because the Zoning Department requires at least five acres to construct a dwelling in a non-subdivided rural area.

Conclusion: The owner admits purchasing the parcel to satisfy residential use, not agricultural use. There is no evidence the land is used for an agricultural purpose. Additionally, there is no evidence of a timber management plan in-place, or past timber harvests. The parcel should be priced using the residential excess acreage rate.

b. Various wooded parcels, both large and small, within a county have been reclassified from the agricultural productivity method of calculation to a flat excess acre rate. The following are examples:

(1) An 81 acre parcel has a one acre home site, 61 acres of woods, and 20 acres of tillable land. The county classified the 61 acres of woods using an excess acreage rate. The 61 acres of wooded area is determined to be land capable of producing timber or other wood products and has 50% or more canopy cover.

Conclusion: The parcel's segmented land use types should continue to be priced using the agricultural productivity method because the parcel was purchased for agricultural use and is utilized for agricultural purposes as described in the *Guidelines*. Evidence of a farm number is also a factor in the assessor's determination.

(2) Mr. Zee recently inherited a 54 acre parcel upon the death of his grandfather. The grandfather pastured the hillside property in the 1970s but had let the pastures overgrow with vegetation for the past 30 years. The parcel has a one acre home site and 53 acres of woods. Mr. Zee, who has no affiliation with agriculture, is planning on moving his family into the dwelling but has no plans for the 53 acre woods. The property is not enrolled in a Federal Government program, there is no timber management plan in-place, the parcel is not enrolled in a classified program, nor has there ever been a timber harvest associated with the parcel. The parcel's assessed value was calculated using the agricultural productivity method before the 2006 trending. As a result of trending, the 53 acres of woods was priced at the residential "excess acre" rate.

Conclusion: The land is appropriately classified because Mr. Zee did not purchase the land with the intent to pursue agricultural activities. Additional considerations are that Mr. Zee does not have a farm number, and he has not produced evidence of a timber management program.

(3) An eight acre parcel contains a one acre home site and seven acres of woods in an exclusive residential setting. Lots are purchased and sold in this neighborhood as residential. The owner asserts that the land is properly classified as agricultural because he cuts and sells firewood. He also files a farm schedule with his Federal Income Tax claiming that he is an agricultural producer, but does not have a farm number.

Conclusion: Firewood alone is not evidence of agricultural activity. The assessor should examine the reasons for the purchase of the land and its current use. Evidence of a farm number, enrollment in classified forest programs, or timber harvests may be taken into consideration. In making a final determination, the assessor should outline statutory or rule reference to support the conclusion.

Type 7—Other Farmland

Land assigned to the "other farmland" land use type is categorized into subtypes. The following table describes the subtypes.

Table 2-22. Other Farmland Subtypes

This subtype	Indicates
Type 71	Land used for farm buildings and barn lots. This land use subtype does not include homesites. The value is determined using the appropriate soil map productivity factor and a 40% influence factor deduction.
Type 72	Land covered by a farm pond or running water. The value is determined using a productivity factor of .50 and a 40% influence factor deduction.
Type 73	2.5 contiguous acres of land designated by the U.S. Department of Agriculture as wetlands. This land use type must be verified through records obtained from the U.S. Department of Agriculture, Farm Service Agency. The value is determined using a productivity factor of .50 and a 40% influence factor deduction.

Type 8—Agricultural Support Land

Agricultural support land is categorized into subtypes. The table below describes the subtypes.

Table 2-23. Agricultural Support Land Subtypes

This subtype	Indicates
Type 81	A legal ditch. The area used and occupied as part of a legal drainage ditch is considered to have no value and is deducted from the total parcel acreage. This area also includes the area adjacent to the ditch that cannot be farmed because of the need for access to the ditch.
Type 82	A public road. The right-of-way area dedicated for public roads is deducted from the total parcel acreage.
Type 83	Land on which public utility transmission towers are situated. The area of .125 (1/8) acre is deducted from the parcel acreage. The transmission line right-of-way is assessed according to the land use of the acreage and is not deducted from the parcel acreage.

Type 9—Homesite

One acre per dwelling on an agricultural property is classified as agricultural homesite land. The base rate for an agricultural homesite acre is a flat rate determined by the assessing official. A soil map productivity factor is ***not*** applied. Information about valuing an agricultural homesite is provided in the section ***Valuing Residential Acreage and Agricultural Homesites***. Type 92 is a subtype of Type 9.

Type 92 indicates agricultural excess acres. This land area is presently dedicated to a non-agricultural use normally associated with the homesite. Areas containing a large manicured yard over and above the accepted one acre homesite would qualify for the agricultural excess acre designation. The agricultural excess acre rate is the same rate that is established for the residential excess acre category. These rates are determined by the assessing official.

Using Soil Maps

The agricultural land assessment formula values farmland, in part, based on the productivity of each parcel's soil resources. More productive land is rated higher than less productive land. Therefore, more productive land has a higher value. To evaluate and categorize land according to its productivity, measurements are calculated from detailed soil maps published by the U.S. Department of Agriculture.

Soil maps show where different soils are located within the landscape and narrative text describes the various soil characteristics. Soils are classified based on soil series and soil map units.

Soil Series

A soil series is a basic classification of soils. A soil series is a group of soil units that are similar according to such characteristics as:

- horizons (soil layering)
- drainage class
- water holding capacity
- organic matter content
- various other soil characteristics.

Soil series are named with names such as Miami, Crosby, Fox, and Brookston. Each soil series is formed in a type of parent material and is generally found in a particular type of location in landscapes. For example, the poorly drained Brookston series generally is found in depressions or wide, flat areas. The soil series classification system used in the United States is national in scope. Therefore, the soil categorized in a particular soil series, such as Miami, is the same across counties throughout the state.

Soil properties, such as depth, water holding capacity, and organic matter content, are used to help estimate the productivity of the soil. Because soils are naturally occurring, not all soils categorized in a particular soil series are exactly alike. When defining a soil series, a range is defined for the characteristics noted above to account for variations. However, these variations do not greatly affect the productivity of the soil.

Soil Map Units

Each soil series is further subdivided into soil map units. After soil scientists identify a soil series, they further subdivide the series by identifying soil map units based on variations in:

- surface texture, such as silt loam or sandy loam
- slope class
- amount of previous erosion.

Soil scientists draw lines around each soil map unit on aerial photographs based on their best estimate of where the soil series or soil map unit changes. In reality, the change from one soil map unit to another is gradual.

Soil Complexes

The amount of information that can be shown on a soil map is related to the scale of the map. Soil maps in Indiana are published at a scale of 1 : 15,840 feet or 1 : 20,000 feet. The smallest map unit delineated by a soil scientist generally is about 3 to 4 acres.

Since soil map unit locations often are smaller than 3 to 4 acres, a delineation on a soil map often consists of more than one soil unit. The soil properties of these soil map units may be similar or dissimilar. Each dissimilar component that makes up 15% or more of the delineation is identified. The soil map unit is named as a complex, such as the Miami-Xenia complex.

If a dissimilar component makes up less than 15% of the delineation, it is referred to as an inclusion and is not included in the name of the complex. Inclusions are a normal characteristic of soil maps and do not affect the usefulness of the maps for assessment purposes.

Because each component would likely have a different productivity index, the productivity index of a complex is the weighted average of the productivity indexes of its identified components. Inclusions are not considered when determining the productivity index for a delineation.

Understanding the Calculation of the Soil Productivity Index

For the purpose of defining the agricultural land assessment formula, each of the approximately 2,400 soil map units in Indiana is assigned a productivity rating. This rating is based on average estimated crop yields, which in turn are based on the physical properties of the soil, such as:

- slope
- moisture holding capacity

- natural drainage class
- depth of rooting
- amount of surface soil remaining
- organic matter content
- various other soil characteristics.

Soil productivity ratings in Indiana are based on corn yield estimates. Estimated corn yields are the most convenient and reliable yield estimates since no other crop is grown on a wider range of soils or over a larger area in the state. Estimated corn yields are based on an average level of crop management and reflect a 10-year average. Estimates of corn yields for particular soil map units are tested using data collected by Purdue University and the U.S. Department of Agriculture, Natural Resource Conservation Service from field trials, yield tests, and producer experiences. An average level of crop management is assumed to account for variations in the amount of fertilizer used, time of planting, hybrid performance, and tillage systems--crop management factors that can cause yield differences. Thus, the soil productivity ratings reflect the yield differences caused by the properties of the soil, not the crop management decisions made by agricultural producers.

The productivity factor for a soil map unit is calculated by dividing the estimated 10-year average corn yield (calculated in bushels per acre) by 100. Productivity factors do not accurately predict the actual yields for a particular year since weather has a great influence on actual yields. However, you can think of the soil productivity index as a relative ranking of soil map units. The more productive the soil, the higher the rating. The best soil in the state has a productivity factor of approximately ~~1.28~~1.31; the poorest soil has a productivity factor of .50.

Valuing Strip Mined Agricultural Land

If coal has been strip mined from agricultural land subsequent to the creation of the detailed soil map for the area, the assessor must apply a special productivity factor to that land:

- For land strip mined on or before December 31, 1977, identify the "Soil I.D." as "SBD7" and apply a productivity factor of .75.
- For land strip mined after December 31, 1977, identify the "Soil I.D." as "SAD7" and apply a productivity factor of .68.

Valuation of Oil and Gas Interests

Oil or gas interests include, but are not limited to; royalties, overriding royalties, mineral rights, or working interests in any oil or gas located on or beneath the surface of the land.

An oil or gas interest is subject to assessment and taxation as real property annually by the assessing official. This interest is assessed to the person who owns or operates each oil or gas interest. The total assessed value of interest in oil located on or beneath the surface or of interest in gas located beneath the surface of a particular tract of land equals the product of the following:

- The average daily production of the oil;
- Three hundred and sixty-five (365); and
- One hundred percent (100%) of the posted price of oil on the assessment date

A piece of equipment is an appurtenance to the land and assessable as real property annually by the assessing official if it is incidental to and necessary for the production of oil and gas from the land covered by the oil or gas interest. Each of the appurtenances is assessed to the person who owns or operates the working interest in the oil or gas interest. This equipment includes, but is not limited to, the following: wells, pumping units, lines, treaters, separators, tanks, and secondary recovery facilities.

The assessing official must apportion the total assessed value of all interests in the oil or gas among the owners of those interests.

Completing the Land Data and Computations Section of the Property Record Card for Agricultural Acreage

The valuation of agricultural land is recorded in the "Land Data and Computations" section of the property record card. Space is provided in the table to itemize areas of land categorized as Type 2 through Type 7. Each row corresponds to one area of land based on soil map unit delineations. Acreage categorized as Type 8 or Type 9, and adjustments, are recorded in the area to the right of the table.

Note: If the property has more areas of land than there are rows in this section of the property record card, use an additional card (or cards) to describe those areas.

The steps for completing the property record card for agricultural acreage are grouped into the following tasks, described in the sections below:

- **Task 1** Record information for each land area, calculate the land value for each land area, and calculate the land value for all of the land areas.
- **Task 2** Record information about special acreage and calculate the total number of acres of farmland.
- **Task 3** Calculate the land value of farmland.
- **Task 4** Calculate the land value of classified land.
- **Task 5** Calculate the total farmland/classified land value.
- **Task 6** Calculate the land value of homesite(s) and agricultural excess acres.

Task 1—Determining the Land Value for the Land Areas

In this task, you record information about each agricultural land area that is categorized as Type 2 through Type 7, and calculate the land value for the area. Each row corresponds to a land area. A land area is an area delineated on a detailed soil map and identified by its soil map unit. After you have calculated the land value for each land area, you sum these values to determine the land value for all of the land areas listed.

To record information about each land area, perform these steps:

STEP 1 In the "Land Type" column, enter the land use type for the land area. Table 2-24 describes the land use types. Detailed descriptions of each land use type are provided in the section ***Classifying Agricultural Land into Land Use Types*** in this chapter.

Note: Acreage classified as Type 8 (agricultural support land) or Type 9 (agricultural homesite) is not valued in this part of the "Land Data and Computations" section.

Table 2-24. Agricultural Land Use Types

This type	Indicates
21	Classified F~~f~~orest~~ land~~
22	Wildlife Habitat ~~Wildlands~~
24	~~Classified windbreak land~~Windbreak
25	~~Classified filter strip land~~Filter Strip
4	Tillable L~~l~~and
41	Tillable L~~l~~and ~~that~~ - ~~floods~~ Floods ~~occasionally~~Occasionally
42	Tillable L~~l~~and ~~that~~ - ~~floods~~ Floods ~~severely~~Severely
43	~~Designated farmed~~ Farmed ~~wetlands~~Wetlands
5	Nontillable L~~l~~and
6	Woodland
71	~~Other farmland: land used for farm buildings and barn lots~~Farm Buildings
72	~~Other farmland: land covered with a farm pond or running water~~Farm Pond
73	~~Other farmland: designated wetlands~~Wetlands
81	Agricultural support land: ~~legal~~ Legal ~~ditch~~Ditch
82	Agricultural support land: P~~p~~ublic R~~r~~oad R~~r~~ight-of-~~way~~Way
83	Agricultural support land: ~~land on which public utility transmission towers are situated~~Utility Transmission Towers
9	(One-A~~a~~cre) H~~h~~omesite
92	Agricultural E~~e~~xcess A~~a~~creages

STEP 2 In the "Soil I.D." column, enter the letter code that identifies the soil map unit (or complex) for the land area and is found on the detailed soil survey map. Information about soil map units is provided in the section ***Soil Map Units*** and the section ***Soil Complexes*** in this chapter.

STEP 3 In the "Measured Acreage" column, enter the area (in acres) of the land area.

Note: An agricultural parcel of less than 2.5 acres does not require delineation of soil types.

STEP 4 In the "Productivity Factor" column, enter the productivity factor corresponding to the land area's soil map unit (recorded in the "Soil

I.D." column). Information about soil productivity factors is provided in the section ***Understanding the Calculation of the Soil Productivity Index*** in this chapter.

Note: For the Type 72 (land covered with a farm, pond or running water) and the Type 73 (designated wetlands) land use types, use a productivity factor of .50 instead of the productivity factor associated with the soil map unit.

STEP 5 In the "Base Rate" column, record the state-wide base rate established for valuing farmland soil productivity.

STEP 6 Calculate the adjusted rate for the land area by multiplying the base rate (entered in the "Base Rate" column) by the productivity factor (entered in the "Productivity Factor" column:

Adjusted rate = Base rate x Productivity factor

Round the adjusted rate to the nearest $1 and enter it in the "Adjusted Rate" column.

STEP 7 Calculate the estimated value of the land area by multiplying the adjusted rate (entered in the "Adjusted Rate" column) by the measured acreage (entered in the "Measured Acreage" column):

Estimated value = Adjusted rate x Measured acreage

Round the estimated value to the nearest $10 and enter it in the "Estimated Value" column.

STEP 8 In the "Influence Factor" column, indicate the influence factor, if any, applicable to the land area based on its land use type. Enter a minus sign ("–"), the influence factor, and a percent sign ("%"). Table 2-25 lists the automatic influence factor associated with each land use type.

Table 2-25. Influence Factors for Agricultural Acreage

For this land use type	Use this influence factor deduction
21	– 100%
22	– 100%
24	– 100%
25	– 100%
4	None
41	– 30%
42	– 50%
43	– 50%
5	– 60%
6	– 80%
71	– 40%
72	– 40%
73	– 40%

STEP 9 *If an influence factor does* ***not*** *apply to the land area*, enter the estimated value (entered in the "Estimated Value" column) in the "Land Value" column.

If an influence factor applies to the land area, calculate the land value for the land area by adjusting the estimated value (entered in the "Estimated Value" column) by the influence factor (entered in the "Influence Factor" column):

Land value = Estimated value x (1.00 - influence factor percentage)

Round the land value to the nearest $10 and enter it in the "Land Value" column.

STEP 10 Perform Step 1 through Step 8 for each land area identified for the property. If you run out of rows in the "Land Data and Computations" section of the property record card, use an additional card (or cards).

STEP 11 *If you used* ***only one*** *property record card to describe the land areas for the property*, sum the entries in the "Measured Acreage" column and enter the total in the "Measured Acreage" cell at the bottom of the column.

*If you used **more than one** property record card to describe the land areas for the property*:

a. On each card except Card 001, sum the entries in the "Measured Acreage" column and enter the total in the "Measured Acreage" cell at the bottom of the column.

b. Sum the entries in the "Measured Acreage" cell of all of the property record cards except Card 001. Enter the total in the "Supplemental Card" cell at the bottom of the "Measured Acreage" column on Card 001.

c. On Card 001, sum the entries in the "Measured Acreage" column, including the entry in the "Supplemental Card" cell. Enter the grand total in the "Measured Acreage" cell at the bottom of the column on Card 001.

STEP 12 *If you used **only one** property record card to describe the land areas for the property*, sum the entries in the "Land Value" column and enter the total in the "Land Value" cell at the bottom of the column.

*If you used **more than one** property record card to describe the land areas for the property*:

a. On each card except Card 001, sum the entries in the "Land Value" column and enter the total in the "Land Value" cell at the bottom of the column.

b. Sum the entries in the "Land Value" cell of all of the property record cards except Card 001. Enter the total in the "Supplemental Card" cell at the bottom of the "Land Value" column on Card 001.

c. On Card 001, sum the entries in the "Land Value" column, including the entry in the "Supplemental Card" cell. Enter the grand total in the "Land Value" cell at the bottom of the column on Card 001.

Task 2—Calculating the Total Farmland Acreage

In this task, you record information about agricultural acreage that is categorized as Type 8 (agricultural support land) or Type 9 (agricultural homesite), and calculate the total number of acres of farmland for the property.

To record information about special agricultural acreage and to calculate the total farmland acreage, perform these steps:

STEP 1 In the "Parcel Acreage" cell, enter the total number of acres in the parcel.

STEP 2 In the "81 Legal Drain NV" cell, enter the number of acres categorized as Type 81 (legal ditch).

Note: Descriptions of the Type 8 land use types are provided in the section ***Type 8—Agricultural Support Land*** in this chapter.

STEP 3 In the "82 Public Roads NV" cell, enter the number of acres categorized as Type 82 (public road right-of-way).

STEP 4 In the "83 UT Towers NV" cell, enter the number of acres (.125 acre per tower) categorized as Type 83 (utility transmission towers).

STEP 5 In the "Homesite (s)" cell, enter the number of acres (1 acre per dwelling) categorized as agricultural homesite acreage.

Note: A description of the Type 9 (agricultural homesite) land use type is provided in the section ***Type 9—Homesite*** in this chapter.

STEP 6 In the "92 Agricultural Excess Acres" cell, enter the number of acres categorized as Type 92 (agricultural excess acres).

STEP 7 Sum the acres entered in the following cells:

- "81 Legal Drain NV"
- "82 Public Roads NV"
- "83 UT Towers NV"
- "9 Homesite(s)"
- "92 Agricultural Excess Acres".

STEP 8 Calculate the total farmland acreage by subtracting the sum calculated in Step 7 from the parcel acreage (entered in the "Parcel Acreage" cell):

Total farmland acreage = Parcel Acreage − Sum calculated in Step 7

Enter the total farmland acreage in the "Total Acres Farmland" cell.

Task 3—Calculating the Value of Farmland

To calculate the value of farmland for the property, you use the measured acreage and land value calculated in Task 1 to determine the average farmland value per acre. Then you apply this average value to the total number of acres of farmland, calculated in Task 2.

To calculate the land value of farmland for the property, perform these steps:

STEP 1 In the "Farmland Value" cell below the "Total Acres Farmland" cell, enter the land value calculated for all of the land areas in Task 1, Step 12 (entered in the "Land Value" cell at the bottom of the "Land Value" column).

STEP 2 In the "Measured Acreage" cell, enter the total measured acreage calculated for all of the land areas in Task 1, Step 11 (entered in the

"Measured Acreage" cell at the bottom of the "Measured Acreage" column.

STEP 3 Calculate the average farmland value per acre by dividing the farmland value (entered in the "Farmland Value" cell) by the measured acreage (entered in the "Measured Acreage" cell):

$$\text{Average farmland value per acre} = \text{Farmland value} \div \text{Measured acreage}$$

Round the average farmland value per acre to the nearest $1 and enter it in the "Average Farmland Value / Acre" cell.

STEP 4 Calculate the value of farmland acreage by multiplying the total farmland acreage (entered in the "Total Acres Farmland" cell) by the average farmland value per acre:

$$\text{Value of farmland acreage} = \text{Total acres farmland} \times \text{Average farmland value per acre}$$

Round the value of farmland acreage to the nearest $10 and enter it in the "Value of Farmland" cell.

Task 4—Calculating the Value of Classified Land

To calculate the value for classified land ~~($1 per acre)~~, perform these steps:

STEP 1 Determine ~~the total acreage of classified land by summing the measured acreage (entered in the "Measured Acreage" column) of all land areas assigned to the Type 2 land use type (entered in the "Land Type" column).~~ the amount per acre under IC 6-1.1-6-14 for the immediately preceding assessment date ("Preceding Assessment Amount Per Acre").

Step 2 Calculate the classified land adjustment by multiplying ~~the total classified land acreage (calculated in Step 1) by $1~~ the Preceding Assessment Amount Per Acre (Step 1) by one (1) plus the annual percentage change in the Consumer Price Index for All Urban Consumers published by the federal Bureau of Labor Statistics for the calendar year preceding the calendar year before the assessment date ("Annual Percentage Change"):

$$\text{Classified land value} = \text{Preceding Assessment Amount Per Acre} \times \cancel{\$}(1 + \text{Annual Percentage Change})$$

Enter the value of classified land in the "Classified Land Total" cell

Task 5—Calculating the Total Farmland/Classified Land Value

To calculate the total farmland/classified land value for the property sum the value of farmland (entered in the "Value of Farmland" cell) and the value for classified land (entered in the "Classified Land Total" cell):

$$\text{Total farmland/classified land value} = \text{Value of farmland} + \text{Classified land value}$$

Round the total farmland/classified land value to the nearest $100 and enter it in the "Total Farmland/Classified Land Value" cell.

Task 6—Calculating the Land Value of the Homesite(s) and Agricultural Excess Acres

To calculate the land value of the homesite(s) and agricultural excess acres perform the following steps:

STEP 1 Enter the value determined for all homesites on the property in the "Homesite(s) Value" cell. Information about valuing homesites is provided in the section ***Valuing Residential Acreage and Agricultural Homesites*** in this chapter.

STEP 2 Enter the value determined for all agricultural excess acres on the property in the "Ag Excess Acres" cell. Information about valuing agricultural excess acres is provided in the section ***Classifying Agricultural Land into Land Use Types*** in this chapter.

Round the land values determined in Steps 1 and 2 to the nearest $100.

Completing the Valuation Record Section of the Property Record Card

Complete the "Valuation Record" section of the property record card, and sign and date the card, after you have valued the real property as outlined in the Manual and Guidelines.

Figure 2-15 shows the "Valuation Record" section of the Agricultural Property Record Card.

Figure 2-16 shows the "Valuation Record" section of the Residential Property Record Card.

Figure 2-17 shows the "Valuation Record" section of the Commercial and Industrial Property Record Card.

Figure 2-15. Valuation Record Section of the Agricultural Property Record Card

Parcel number	
County	
Township	
Corporation	
District	
Section and Plat	
Routing number	
Neighborhood code	
Property class	
Property address	

Ownership

Transfer of Ownership — Card No. ______ of ______

Date	Grantee	Rec. #	Sale Price	Owner Occupied
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No

Topography	Pub. Utilities	Street or Rd.	Neighborhood
☐ Level	☐ Water	☐ Paved	☐ Improving
☐ High	☐ Sewer	☐ Unpaved	☐ Static
☐ Low	☐ Gas	☐ Proposed	☐ Declining
☐ Rolling	☐ Electricity	☐ Sidewalk	☐ ______
☐ Swampy	☐ All	☐ Alley	☐ Blighted

Property Class

100 Vacant Land	106 Vegetable Farms
101 Cash Grain/ General Farm	107 Tobacco Farms
102 Livestock other than Dairy or Poultry	108 Nurseries
103 Dairy Farms	109 Greenhouses
104 Poultry Farms	110 Hog Farms
105 Fruit & Nut Farms	111 Beef Farms
	120 Timber
	199 Other Agricultural Use
	200 MINERAL

Memorandum

VALUATION RECORD

	Assessment Year	20___	20___	20___	20___	20___	20___	20___	20___
	Reason for Change	Revaluation							
TRUE TAX VALUE	Res Land (Homesite)								
	Res Imp								
	Shelter Allowance (-)								
	Adj. Res. Land								
	Adj. Res. Imp. (+)								
	Ag. Excess Land (+)								
	Non-Res Imp (+)								
	Farm / Classified Land (+)								
	Total TTV								
ASSESSED VALUE	Adj. Res Land								
	Adj. Res Imp (+)								
	Ag. Excess Land (+)								
	Non-Res Imp (+)								
	Farm / Classified Land (+)								
	Total AV								

LAND DATA AND COMPUTATIONS

Land Type	Soil I.D.	Measured Acerage	Productivity Factor	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Land Value
Supplemental Card							Supplemental Card	
Measured Acreage							LAND VALUE	

Parcel Acreage	
81 Legal Drain NV [-]	
82 Public Roads NV [-]	
83 UT Towers NV [-]	
9 Homesite(s) [-]	
92 Ag. Excess Acres [-]	
TOTAL ACRES FARMLAND	
Farmland Value	
Measured Acreage	
Average Farmland Value/Acre	
VALUE OF FARMLAND	
Classified Land Total	
Total Farmland / Classified Land Value	
Homesite(s) Value [+]	
92 Ag. Excess Acres [+]	

LAND TYPE

F - Front Lot
R - Rear Lot
1 - Comm./Ind. Land
2 - Classified Land
21 - Classified Forest
22 - Wildlife Habitat
23 - Riparian Land
24 - Windbreak
25 - Filter Strip
3 - Undeveloped Land
4 - Tillable Land
5 - Non-Tillable Land
6 - Woodland
7 - Other Farmland
71 - Farm Buildings
72 - Water
73 - Wetlands
8 - Ag Support Land
81 Legal Ditch
82 Public Road
83 Utility Trans. Towers
9 - Homesite
91 Res. Excess Acres
92 Ag. Excess Acres

State Form 50057 (R / 2-17)

INDIANA AGRICULTURAL PROPERTY RECORD CARD

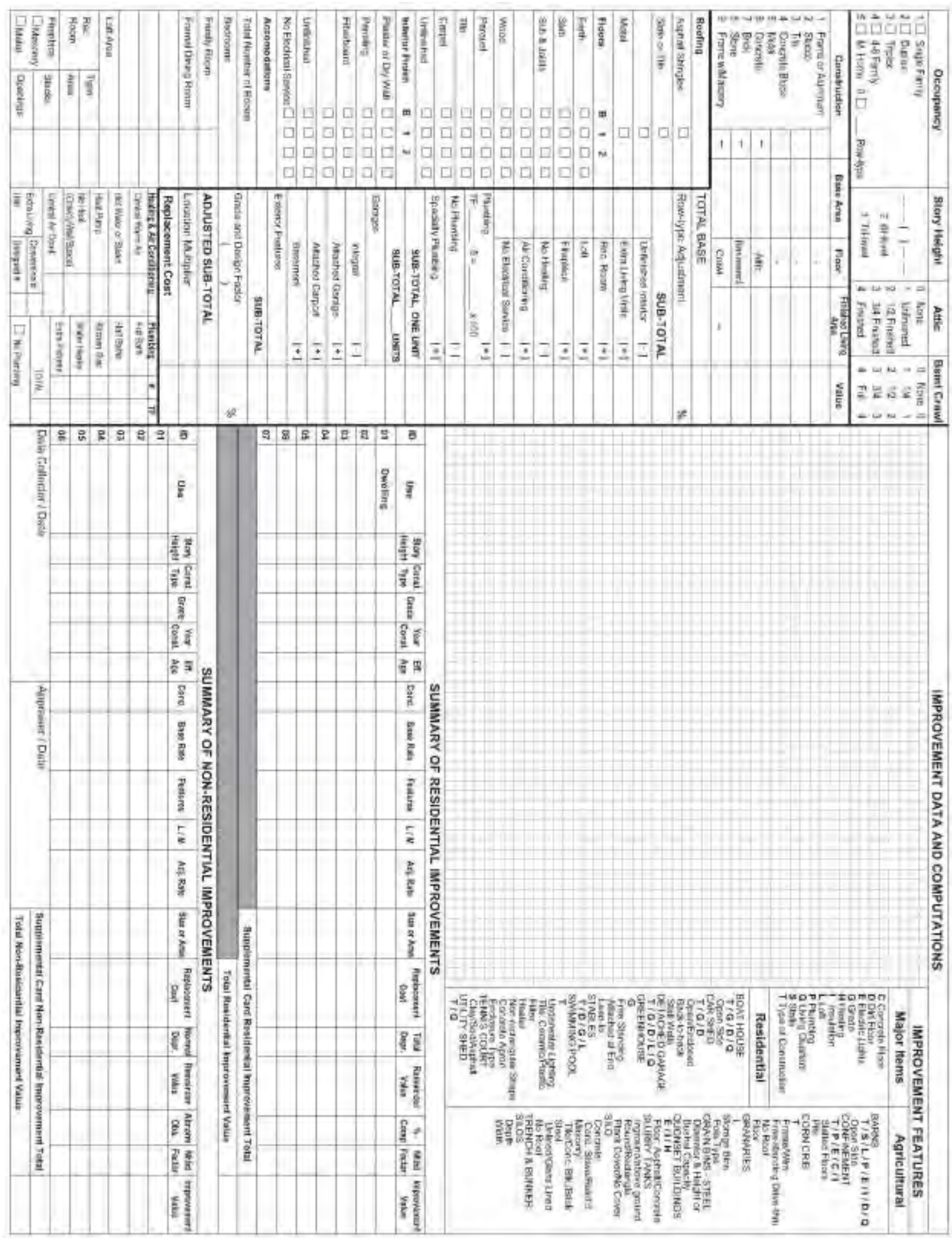
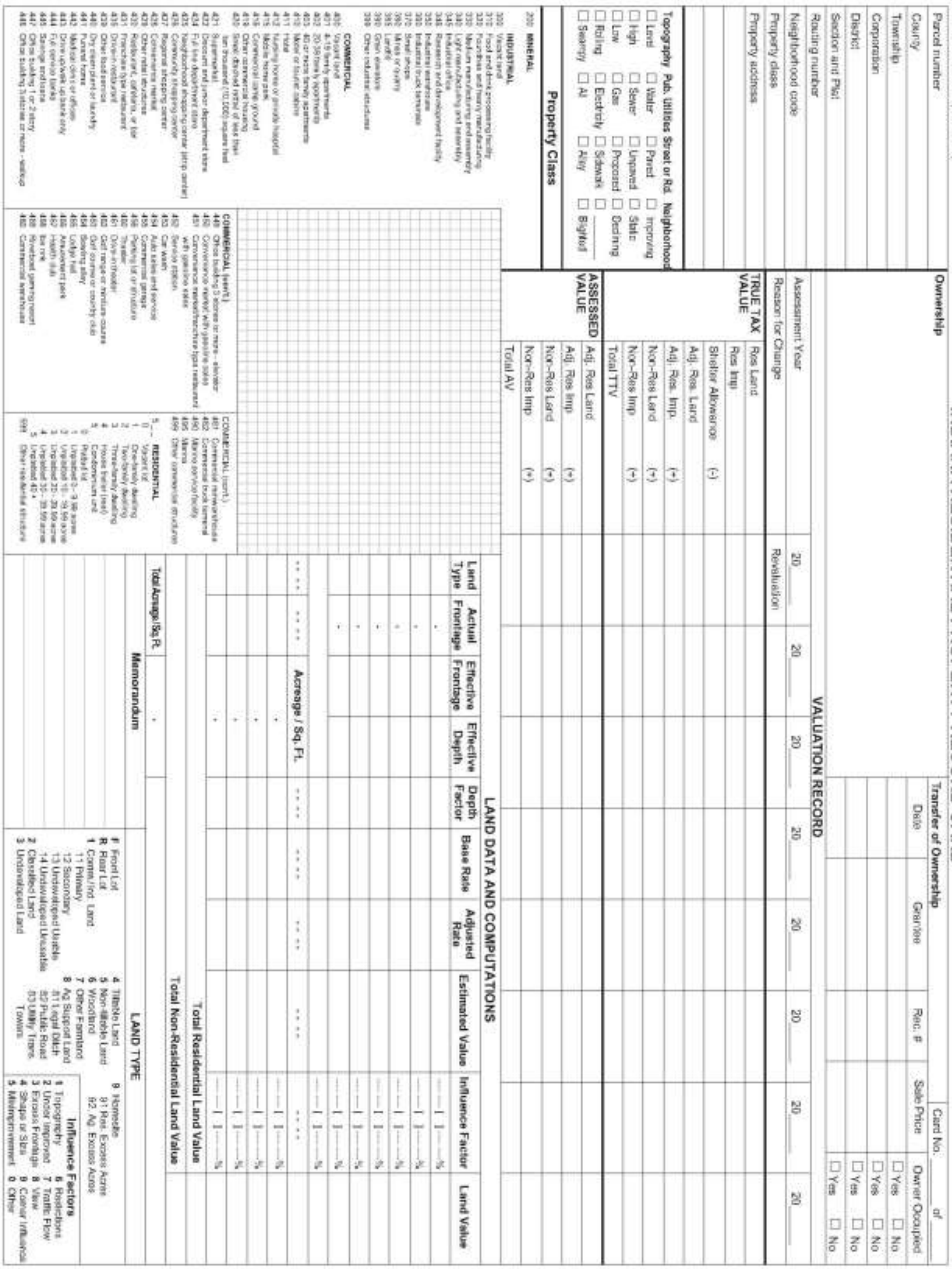
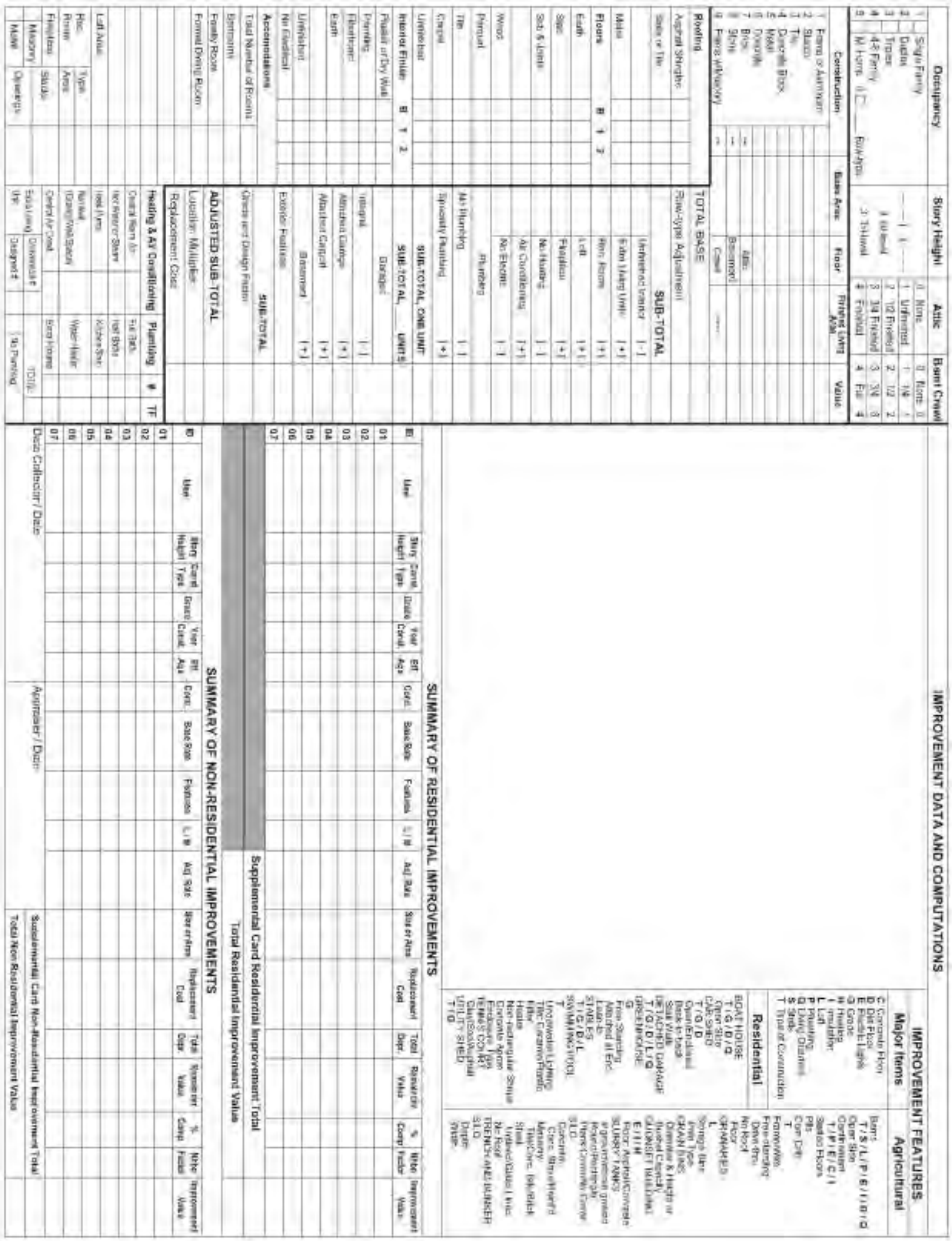

IMPROVEMENT DATA AND COMPUTATIONS
Occupancy
Story Height
Attic
Bsmt / Crawl
Construction
Base Area
Floor
Finished Living Area
Value
Roofing
Floors
Interior Finish
Accomodations
TOTAL BASE
SUB-TOTAL
SUB-TOTAL, ONE UNIT
ADJUSTED SUB-TOTAL
Replacement Cost
IMPROVEMENT FEATURES
Major Items
Residential
Agricultural
SUMMARY OF RESIDENTIAL IMPROVEMENTS
Supplemental Card Residential Improvement Total
Total Residential Improvement Value
SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS
Data Collector / Date
Appraiser / Date
Supplemental Card Non-Residential Improvement Total
Total Non-Residential Improvement Value

Figure 2-16. Valuation Record Section of the Residential Property Record Card





Occupancy | Story Height | Attic | Bsmt Crawl

1 Single Family
2 Duplex
3 Triplex
4 4-8 Family
5 M Home
Row-type

Attic: 0 None, 1 Unfinished, 2 1/2 Finished, 3 3/4 Finished, 4 Finished
Bsmt Crawl: 0 None 0, 1 1/4 1, 2 1/2 2, 3 3/4 3, 4 Full 4

Construction | Base Area | Floor | Finished Living Area | Value

1 Frame or Aluminum
2 Stucco
3 Tile
4 Concrete Block
5 Metal
6 Concrete
7 Brick
8 Stone
9 Frame w/Masonry

Attic
Basement
Crawl

Roofing
Asphalt Shingles
Slate or Tile
Metal
Floors B 1 2
Earth
Slab
Sub & Joists
Wood
Parquet
Tile
Carpet
Unfinished
Interior Finish B 1 2
Plaster or Dry Wall
Paneling
Fiberboard
Earth
Unfinished
No Finished
Accomodations
Total Number of Rooms
Bedrooms
Family Room
Formal Dining Room
Loft Area
Rec. Room: Type, Area
Fireplace: Masonry, Metal; Stacks, Openings

TOTAL BASE
Row-type Adjustment
SUB-TOTAL
Unfinished Interior (-)
Extra Living Units (+)
Rec. Room (+)
Loft (+)
Fireplace (+)
No Heating (-)
Air Conditioning (+)
No Electric (-)
Plumbing
No Plumbing (-)
Specialty Plumbing (+)
SUB-TOTAL, ONE UNIT
SUB-TOTAL, ___ UNITS
Garages
Integral (-)
Attached Garage (+)
Attached Carport (+)
Basement (+)
Exterior Features
SUB-TOTAL
Grade and Design Factor
ADJUSTED SUB-TOTAL
Location Multiplier
Replacement Cost

Heating & A/ Conditioning | Plumbing | # | TF
Central Warm Air | Full Bath
Hot Water or Steam | Half Bath
Heat Pump | Kitchen Sink
Radiant (Ceiling/Wall/Space) | Water Heater
Central Air Cond. | Extra Fixtures
Extra Living Unit: Dishwasher #, Designed # | TOTAL, No Plumbing

IMPROVEMENT DATA AND COMPUTATIONS

IMPROVEMENT FEATURES

Major Items:
C Concrete Floor
D Dirt Floor
E Electric Lights
G Grade
H Heating
I Insulation
L Loft
P Plumbing
Q Living Quarters
S Stalls
T Type of Construction

Residential:
BOAT HOUSE T/G/D/Q Open Side
CAR SHED T/G/D Open/Enclosed Back-to-back Stall Walls
DETACHED GARAGE T/G/D/L/Q
GREENHOUSE G Free Standing Attached at End Lean-to
STABLES T/G/D/L
SWIMMING POOL T Underwater Lighting Tile: Ceramic/Plastic Filter Heater Non-rectangular Shape Concrete Apron Enclosure Type
TENNIS COURT Clay/Sod/Asphalt
UTILITY SHED T/G

Agricultural:
Barns T/S/L/P/E/I/D/Q Open Side
Confinement T/P/E/C/I Slatted Floors Pits
Corn Crib T
Frame/Wire Free-standing Drive-thru No Roof Floor
GRANARIES L
Storage Bins Pole Type
GRAIN BINS Diameter & Height or Bushel Capacity
QUONSET BUILDING E/I/H Floor: Asphalt/Concrete
SLURRY TANKS in ground/above ground Round/Rectangle Plank/Concrete Cover
SILO Concrete: Conc. Stave/Reinf'd Masonry: Tile/Conc. Blk/Brick Steel: Unlined/Glass Lined No Roof
TRENCH AND BUNKER SILO Depth Width

SUMMARY OF RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L/M	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Nbhd Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		
07																		

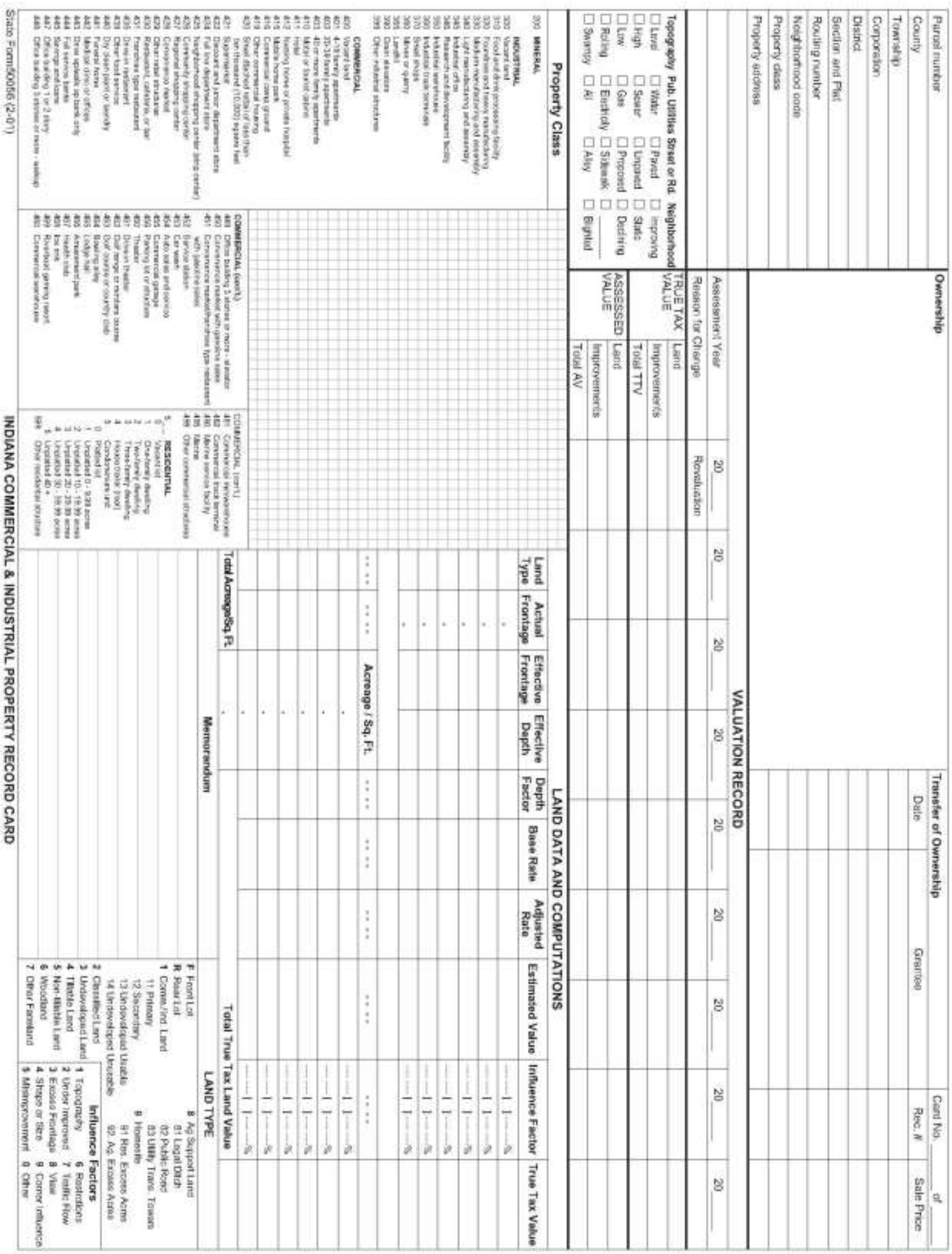
Supplemental Card Residential Improvement Total
Total Residential Improvement Value

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L/M	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Nbhd Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		
07																		

Data Collector / Date
Appraiser / Date
Supplemental Card Non-Residential Improvement Total
Total Non Residential Improvement Value

Figure 2-17. Valuation Record Section - Commercial and Industrial Property Record Card



Walls	Roofing
☐ Brick	☐ Built-up
☐ Stone	☐ Metal
☐ Concrete	☐ Slate/Tile
☐ Frame or Metal	☐ Shingle
☐ C.B. or Tile	☐
☐	☐ Insulation
☐	☐

	B					
Framing	B					
Wood Joist	☐	☐	☐	☐	☐	☐
Fire Resistant	☐	☐	☐	☐	☐	☐
Fire Proof Steel	☐	☐	☐	☐	☐	☐
Reinf. Concrete	☐	☐	☐	☐	☐	☐
Flooring	B					
Concrete	☐	☐	☐	☐	☐	☐
Wood	☐	☐	☐	☐	☐	☐
Tile or Carpet	☐	☐	☐	☐	☐	☐
Finish Type	B					
Unfinished	☐	☐	☐	☐	☐	☐
Semifinished	☐	☐	☐	☐	☐	☐
Finished Open	☐	☐	☐	☐	☐	☐
Finished Divided	☐	☐	☐	☐	☐	☐
Use	B					
Store	☐	☐	☐	☐	☐	☐
Office	☐	☐	☐	☐	☐	☐
Apartment	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
Vacant or Aband.	☐	☐	☐	☐	☐	☐
Heating & Air Conditioning						
No Heating	☐	☐	☐	☐	☐	☐
Central Warm Air	☐	☐	☐	☐	☐	☐
Hot Wat. or Steam	☐	☐	☐	☐	☐	☐
Unit Heating	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
Central Air	☐	☐	☐	☐	☐	☐
Package or Unit Air	☐	☐	☐	☐	☐	☐
Sprinkler	☐	☐	☐	☐	☐	☐

Plumbing Fixtures	#	TF
Full Baths		
Half Baths		
Extra Fixtures		
TOTAL		

Other Fixtures			
Wash Fountains	G/F	ES	SS
Circular 36"			
Circular 54"			
Semi-circular 36"			
Semi-circular 54"			
Industrial Gang Sinks			
4' long, 4 man			
8' long, 8 man			
Shower - Column			
Circular, 5 per			
Semi-circular, 3 per			
Corner, 2 per			
Shower Multi-Stall			
Circular, 5 per			
Semi-circular, 3 per			
Corner, 2 per			
	No. Fixtures		
Gang Shower Heads			
Drinking Fountains			
Refrigerated Water Coolers			
........with Hot & Cold Water			
Emergency Shower/Eye Wash			

IMPROVEMENT DATA AND COMPUTATIONS

O T E N

Circle One →	1 or A		2 or B		3 or C		4 or D		5 or E	
Pricing Key										
S.F. AREA										
Effective Perimeter										
P.A.R.										
Number of units										
Average unit size										
Floor	Hgt.	Rate	Hgt.	Rate	Hgt.	Rate	Hgt.	Rate	Hgt.	Rate
Basement										
1st										
2nd										
3rd										
4th										
Frame Adj. (±)										
Wall Hght. Adj. (±)										
Base Price										
B.P.A. %										
Sub-total										
Unit Finish										
Interior Finish										
Div./Ptn. Walls										
Lighting										
Heating/Air Cond.										
Sprinkler										
S.F. Price										
Area										
Sub-total										
Plumbing										
Special Features										
Exterior Features										
TOTAL BASE										
Location Multiplier										
Grade Factor										
Replacement Cost										

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L/M	Adj. Rate	Size or Area	Replacement Cost	Norm. Depr.	Remainder Value	Obsol. Depr.	True Tax Value
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	
10																	
11																	
12																	
13																	

Data Collector / Date

Appraiser / Date

Total True Tax Improvement Value

Figure 2-18. Area for Signing and Dating a Property Record Card

To complete the "Valuation Record" sections of the Agricultural, Residential, and Commercial and Industrial Property Record Cards, and to sign and date the cards, perform these steps:

STEP 1 In the "Assessment Year" row, enter the year when the assessment is being conducted.

STEP 2 *If the assessment is being conducted as part of a general reassessment*, "Revaluation" appears in the "Reason for Change" row.

If the assessment is being conducted to change the valuation of the property for a particular reason, enter the reason for the change in the "Reason for Change" row.

STEP 3(A) Complete the "True Tax Value" rows (***Agricultural Property Record Card***):

a. In the "Res Land" row, enter the amount recorded in the "Homesite(s) Value" cell from the "Land Data and Computations" section of the property record card.

b. In the "Res Imp" row, enter the amount recorded in the "Total Residential Improvement Value" cell from the "Summary of Residential Improvements" section of the property record card.

c. Carry the value determined in sub step a to the "Adj. Res Land" row, and from sub step b to the "Adj. Res Imp" row.

d. In the "Ag Excess Land" row, enter the amount recorded in the "92 Ag Excess Acres" cell from the "Land Data and Computations" section of the property record card.

e. In the "Non-Res Imp" row, enter the amount recorded in the "Total Non-Residential Improvement Value" cell from the "Summary of Non-Residential Improvements" section of the property record card.

f. In the "Farm/Classified Land" row, enter the amount recorded in the "Total Farmland/Classified Land Value" cell from the "Land Data and Computations" section of the property record card.

g. Calculate the total true tax value of the property by summing the "Adj Res Land" cell, "Adj Res Imp" cell, "Ag Excess Land" cell, "Non-Res Imp" cell, and "Farm/Classified Land cell:

h.

Total True Tax Value	=	Adj. Res Land	+	Adj. Res Imp	+	Ag. Excess Land	+	Non-Res Imp	+	Farm/Classified Land

i. Enter the total true tax value, rounded to the nearest $100, in the "Total TTV" row.

STEP 4 Complete the "Assessed Value" rows. The assessed values are 100% of the true tax values.

a. In the "Adj Res Land" row, enter the assessed value of the property's adjusted residential land.

b. In the "Adj Res Imp" row, enter the assessed value of the property's adjusted residential improvements.

c. In the "Ag Excess Land" row, enter the assessed value of the property's agricultural excess acres.

d. In the "Non-Res Imp" row, enter the assessed value of the property's non-residential improvements.

e. In the "Farm/Classified Land" row, enter the assessed value of the property's farmland and classified land.

f. Calculate the total assessed value by summing the "Adj Res Land" cell, "Adj Res Imp" cell, "Ag Excess Land" cell, "Non-Res Imp" cell, and "Farm/Classified Land cell:

Total Assessed Value	=	Adj. Res Land	+	Adj. Res Imp	+	Ag. Excess Land	+	Non-Res Imp	+	Farm/Classified Land

Enter the total assessed value, rounded to the nearest $100, in the "Total AV" row.

If an equalization factor is to be applied at the county level, enter (in the "Reason for Change" row) "County Equalization" in the column just to the right of the valuation being equalized. If an equalization factor is to be applied at the state level, enter (in the "Reason for Change" row) "State Equalization" in the column just to the right of the valuation being equalized. The Department of Local Government Finance will be promulgating an equalization rule, which will provide more detailed information on the application of equalization factors.

In the assessment of agricultural properties, an equalization factor would only apply to the rows "Res Land", "Res Imp", "Ag Excess Land", and "Non-Res Imp".

STEP 3(B) Complete the "True Tax Value" rows (***Residential Property Record Card***)

a. In the "Res Land" row, enter the amount recorded in the "Total Residential Land Value" cell from the "Land Data and Computations" section of the property record card.

b. In the "Res Imp" row, enter the amount recorded in the "Total Residential Improvement Value" cell from the "Summary of Residential Improvements" section of the property record card.

c. In the "Non-Res Land" row, enter the amount recorded in the "Total Non-Residential Land Value" cell from the "Land Data and Computations" section of the property record card.

d. In the "Non-Res Imp" row, enter the amount recorded in the "Total Non-Residential Improvement Value" cell from the "Summary of Non-Residential Improvements" section of the property record card.

e. Calculate the total true tax value of the property by summing the "Adj Res Land" cell, "Adj Res Imp" cell, "Non-Res Land" cell, and "Non-Res Imp" cell.

Total True Tax Value	=	Adj. Res Land	+	Adj. Res Imp	+	Non-Res Land	+	Non-Res Imp

Enter the total true tax value in the "Total TTV" row.

STEP 4(B) Complete the "Assessed Value" rows. The assessed values are 100% of the true tax values.

a. In the "Adj Res Land" row, enter the assessed value of the property's adjusted residential land.

b. In the "Adj Res Imp" row, enter the assessed value of the property's adjusted residential improvements.

c. In the "Non-Res Land" row, enter the assessed value of the property's non-residential land.

d. In the "Non-Res Imp" row, enter the assessed value of the property's non-residential improvements.

e. Calculate the total assessed value by summing the "Adj Res Land" cell, "Adj Res Imp" cell, "Non-Res Land" cell, and "Non-Res Imp" cell:

f.

Total Assessed Value	=	Adj. Res Land	+	Adj. Res Imp	+	Non-Res Land	+	Non-Res Imp

Enter the total assessed value in the "Total AV" row.

If an equalization factor is to be applied at the county level, enter (in the "Reason for Change" row) "County Equalization" in the column just to the right of the valuation being equalized. If an equalization factor is to be applied at the state level, enter (in the "Reason for Change" row) "State Equalization" in the column just to the right of the valuation being equalized. The Department of Local Government Finance will be promulgating an equalization rule, which will provide more detailed information on the application of equalization factors.

In the assessment of residential properties, an equalization factor would only apply to the rows "Res Land", "Res Imp", "Non-Res Land", and "Non-Res Imp".

STEP 3(C) Complete the "True Tax Value" rows (***Commercial and Industrial Property Record Card***):

a. In the "Land" row, enter the amount recorded in the "Total True Tax Land Value" cell from the "Land Data and Computations" section of the property record card.

b. In the "Improvements" row, enter the amount recorded in the "Total True Tax Improvement Value" cell from the "Summary of Improvements" section of the property record card.

c. Calculate the total true tax value of the property by summing the true tax value of the property's land (entered in the "Land" row) and the true tax value of the property's improvements (entered in the "Improvements" row):

Total true tax value	=	True tax value of land	+	True tax value of improvements

d. Enter the total true tax value in the "Total TTV" row.

STEP 4(C) Complete the "Assessed Value" rows. The assessed values are 100% of the true tax values.

a. In the "Land" row, enter the assessed value of the property's land.

b. In the "Improvements" row, enter the assessed value of the property's improvements.

c. Calculate the total assessed value of the property by summing the assessed value of the property's land (entered in the "Land" row) and the assessed value of the property's improvements (entered in the "Improvements" row):

Total Assessed Value	=	Assessed Value of Land	+	Assessed Value of Improvements

d. Enter the total assessed value, rounded to the nearest $100, in the "Total AV" row.

If an equalization factor is to be applied at the county level, enter (in the "Reason for Change" row) "County Equalization" in the column just to the right of the valuation being equalized. If an equalization factor is to be applied at the state level, enter (in the "Reason for Change" row) "State Equalization" in the column just to the right of the valuation being equalized. The Department of Local Government Finance will be promulgating an equalization rule, which will provide more detailed information on the application of equalization factors.

In the assessment of commercial and industrial properties, an equalization factor would be applicable to the "Total TTV".

STEP 5 In the "Data Collector/Date" cell, have the data collector sign and date the Property Record Card.

STEP 6 In the "Appraiser/Date" cell, have the appraiser sign and date the Property Record Card.

Contents

Tables

Figures

This chapter describes the process of valuing residential dwelling units. It begins with an overview of the data collection procedure for dwelling units. In order to understand the process of valuing residential dwelling units, you need to understand the following concepts, which are described in this chapter:

- measuring and calculating floor areas for dwelling units
- determining the story description for dwelling units
- categorizing a dwelling unit's garage or carport
- labeling the sketch of a dwelling unit.

The rest of the chapter provides step-by-step instructions for completing the relevant sections of the Residential Property Record Card and for determining the true tax value for a dwelling unit.

Overview of the Data Collection Procedure

When gathering data to assess a residential dwelling unit, you need to

- gather general information with the occupant's assistance, if possible
- gather information about the interior
- take the necessary measurements
- assess the general characteristics
- review the data before you leave.

The steps below describe a recommended approach for performing each of these tasks. The section ***Completing a Property Record Card*** in this chapter provides detailed instructions for completing each area of the Property Record Card when assessing a dwelling.

Task 1—Gathering General Information

STEP 1 Record the address of the dwelling and check the exterior components, such as the foundation, walls, and roof.

STEP 2 Greet the occupant, present an identification card, and explain the purpose of the visit in a brief, courteous manner.

If the occupant is not there, estimate the interior information.

If the occupant refuses to admit you to the property, do not argue. Leave immediately and estimate the assessment data. Note on the card that admittance was refused, and record the date and time.

STEP 3 Determine the age of the dwelling. If the occupant does not know, estimate the date of construction and indicate the date estimated with a "+/-" after the date.

STEP 4 Determine the number of rooms per floor, the total number of bathrooms, and whether there is a basement and/or an attic.

STEP 5 *If there is a finished attic*, determine the extent of the finish.

Task 2—Gathering Information About the Interior

STEP 1 *If the dwelling is more than one-story*, inspect the upper floor to determine the extent to which it is finished.

STEP 2 Note the quality of construction and other features that affect the determination of grade, such as the quality of each aspect of the interior finish.

STEP 3 Note the general condition of the dwelling for the determination of depreciation. For example, look for signs of wear and tear, as well as deterioration, such as cracked walls and sagging floors.

STEP 4 *If there is a basement*, determine its size and whether there are any improvements, such as installation of extra plumbing fixtures or creation of a recreation room. If areas are finished, evaluate the quality of the finish and size of the finished area. While in the basement, determine the size and type of floor joists.

STEP 5 *If there is a crawl space*, determine the size.

STEP 6 Determine the type of heating and the number of plumbing fixtures.

STEP 7 Double check the interior features noted on the property record card. Be sure to note any unusual conditions that are not visible from the outside, such as recent remodeling or severe deterioration of the interior. Remember to mark the card clearly so the feature can be priced properly.

STEP 8 *If you have no further questions*, thank the occupant and begin your exterior inspection.

Task 3—Measuring the Dwelling

STEP 1 Measure the dwelling and sketch it neatly on the property record card in its approximate proportions. Also,

- Be sure the measurements are complete and accurate.
- Note any offsets or additions.
- Indicate separate story heights and show additions to the base of the dwelling.
- Indicate the location of any basement and crawl space.
- Make sure that the total measurements of opposite sides are equal.

STEP 2 *If the dwelling has any exterior features such as a porch, deck, patio, or balcony*, indicate the dimensions in the sketch area and label the improvement.

STEP 3 Provide information about the garage.

If there is an attached carport or garage, indicate the type of construction, story height, and area inside the sketch area of the property record card.

If there is a detached garage, enter its measurements in the appropriate blocks on the card. Note whether the grade and condition of the garage are similar to the dwelling.

If there is a basement garage or integral garage, label its car capacity or area, if possible.

If the dwelling does not have a garage or carport, note this fact on the property record card.

Task 4—Assessing the General Characteristics of the Dwelling and Neighborhood

STEP 1 From the beginning of your review, establish an idea of the proper grade. See ***Appendix A—, Assigning Grades to Dwellings***.

STEP 2 Determine the property condition rating for the dwelling. This rating is a judgment of the physical condition and functional usefulness of the dwelling in relation to other properties in the neighborhood. See ***Appendix B—, Understanding Property Condition Ratings***.

STEP 3 Before you finalize your determination of the grade for the dwelling, go to a position where there is a good overall view of the dwelling. Then, determine the grade based on your inspection of the dwelling in addition to the procedures identified in ***Appendix A***.

Note: The pricing schedules do ***not*** reflect added cost for the increased perimeter of an irregular wall outline, expansive roof structures with wide overhangs, and elaborate trim and built-in features. The grade factor is used to reflect these attributes, as well as other factors.

STEP 4 Determine the total depreciation of the dwelling. Total depreciation for residential property is obtained by reviewing the grade, property condition, and age. Information about determining depreciation is provided in ***Appendix B***.

Task 5—Reviewing the Data

Before you leave, be sure to review all the data about the dwelling to ensure that it is complete and accurate.

Measuring and Calculating Areas

Use the following guidelines to determine the base area of the dwelling unit:

- Measure the exterior of each full or partial floor, but do not include measurements for exterior features such as porches and stoops.
- Enter all measurements on the sketch area of the Property Record Card.

- Check the front measurements against the rear measurements, and the side measurements against each other.
- Compute the base area of all units while at the site to avoid missing a measurement.

Figure 3-1 and the example that follows show how to calculate the base area for a dwelling.

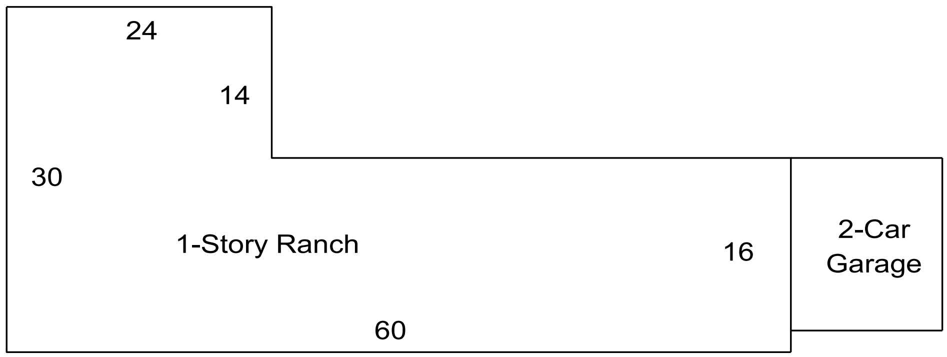


Figure 3-1. Floor Plan

Example: 16′ x 60′ = 960 sq. ft.
14′ x 24′ = + 336 sq. ft.
1,296 sq. ft. of ground floor area

Use the following guidelines when making a sketch of the dwelling:

- Sketch the dwelling neatly on the card in its approximate proportions.
- Separate the segmented areas of the dwelling based on the presence of different story heights and/or the presence of a basement and crawl space mixture.
- Record on the sketch each measurement of the dwelling rounded to the nearest 1 foot.
- Write each measurement horizontally and as close to the corresponding line as possible.
- Check the total of the front measurements against the total of the back measurements of the dwelling.
- Check the total of the side measurements against the total of the opposite side measurements.
- Record the sizes of any exterior features or attached garages.

Figure 3-2 shows the correct and an incorrect way to enter measurements on the card.

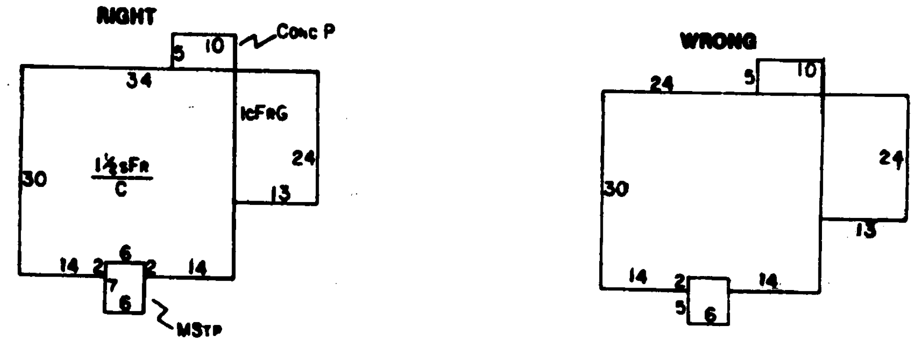
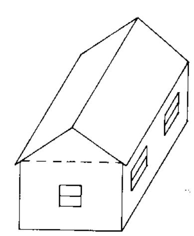


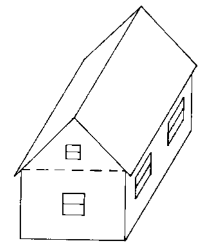
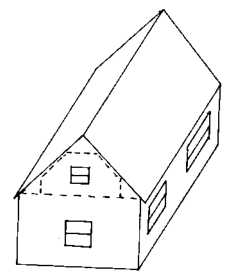
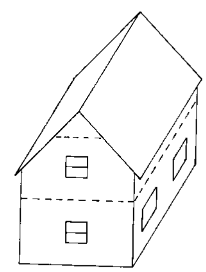
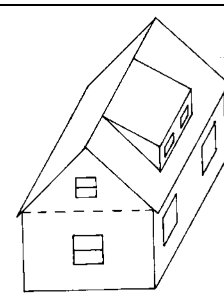
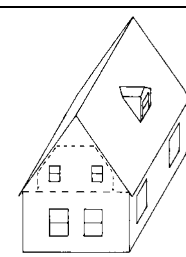
Figure 3-2. Measurements

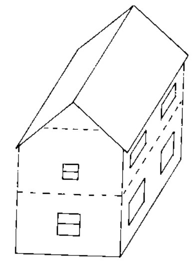
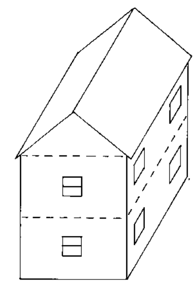
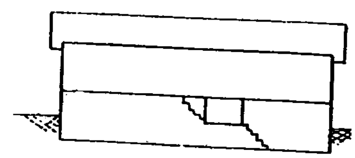
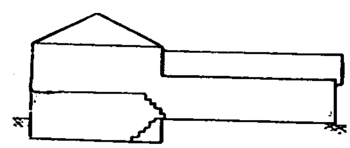
Determining the Story Description

The base residential cost schedules used to calculate the replacement cost of a dwelling are listed by floors. Use the explanations in ***Table 3-1*** to determine which story description is appropriate for a dwelling.

Table 3-1. Story Descriptions

Story Description	Figure
One-story dwelling, generally referred to as a ranch style home, has the following characteristics: ▪ all rooms on one floor ▪ all rooms located below the square of the house at the eave line ▪ low-pitch roof with a slope of about 1/6.	

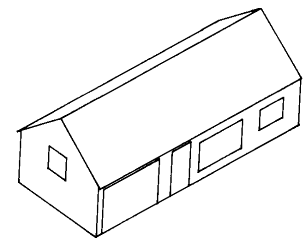
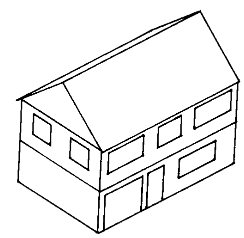
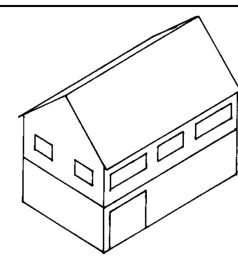
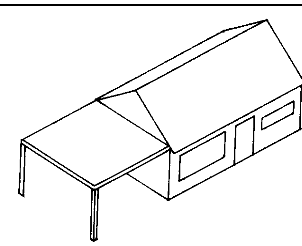
Story Description	Figure
One-story dwelling with an attic has the same characteristics as a one-story dwelling, and also has the following characteristics: ▪ a roof slope of about 1/4 or 1/3 ▪ permanent stairway to a usable, floored attic.	
One-story with a finished attic has the same characteristics as a one-story dwelling, and also has the following characteristics: ▪ a roof slope of about 1/4 or 1/3 ▪ permanent stairway to an attic with interior finish.	
One and one-half story has the following characteristics: ▪ full first floor area and a full second floor area ▪ usable second floor area less than the first floor area ▪ second floor exterior wall height of 4 or 5 feet ▪ second floor ceiling follows the slope of the roof.	
One and one-half story has characteristics similar to those of a one-story dwelling with a finished attic, and also has the following characteristics: ▪ a roof slope of about 1/3 to 1/2 ▪ large dormer on one side of the roof, and may have 1 or 2 smaller dormers on the opposite side of the roof.	
One and one-half story has characteristics similar to those of a one-story dwelling with a finished attic, and also has the following characteristics: ▪ high-pitch roof with a slope of about 5/8 or 3/4 ▪ small dormers on one or both sides of the roof.	

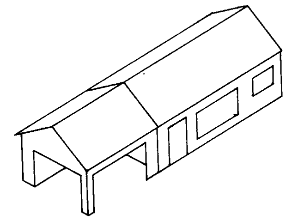
Story Description	**Figure**
One and three-fourths story has the following characteristics: ▪ full first floor area ▪ second floor exterior wall height of 6 or 7 feet ▪ part of the second floor ceiling follows the slope of the roof.	
Two-story has the following characteristics: ▪ two full floors of living area ▪ first floor usually at grade level.	
Bi-level has the following characteristics: ▪ 2-level design ▪ first floor partially below grade ▪ entry or foyer at a level between the first and second floor.	
Tri-level has the following characteristics: ▪ split-level design of 3 levels or more, exclusive of any basement ▪ first floor partially below grade and partially at grade level ▪ second floor on top of the first floor level.	

Categorizing the Garage or Carport

Many dwelling units have garages or carports attached to, or incorporated into the design of the dwelling. Use the following explanations in ***Table 3-2*** to determine a dwelling's garage type.

Table 3-2. Garage/Carport Types

Garage/Carport Types	Figure
Attached garage has the following characteristics: ■ completely enclosed structure ■ one or more walls in common with the dwelling ■ measurable dimensions.	
Integral garage has the following characteristics: ■ part of the dwelling with living area on two or more surfaces ■ dimensions that are not easily measurable from the exterior. **Note:** Many homes have garages with dimensions that are not easily measurable from the exterior because the area immediately behind the garage is a finished living space. In other types of homes, the living space may be on the floor above the garage. In either case, the garage is included in the base area calculation. After the dwelling is priced, the area of the integral garage is estimated using its car capacity and is deducted from the base area of the dwelling.	
Basement garage has the following characteristics: ■ located on the basement level ■ entrance on the basement level.	
Shed-type carport has the following characteristics: ■ flat roof, independent of the dwelling's roof ■ open sides and ends	

Garage/Carport Types	Figure
Integral roof extension type carport has the following characteristics: ■ roof that is a continuation of the basic roof structure of the dwelling ■ open sides and ends.	

Labeling the Sketch Grid

When you record the physical characteristics of the dwelling on the sketch grid of the property record card, use abbreviations and symbols to identify such elements as:

- base area components
- construction materials
- story heights
- exterior features.

Table 3-3 lists the abbreviations, and the examples that follow demonstrate how to record the abbreviations on the sketch grid.

Table 3-3. Abbreviations for Use on the Sketch Grid

BASE AREA COMPONENTS	
For this component	**Use this abbreviation**
Attic	A
Basement	B
Bay; a wall projection that extends beyond the normal line of the dwelling	Bay
Crawl space	C
Overhang; an upper floor area that extends beyond the area	Oh

below it	
CONSTRUCTION MATERIALS	
For this material	**Use this abbreviation**
Artificial brick	Art br
Artificial stone	Art stn
Brick	Br
Concrete block	CB
Concrete	Conc
Enamel steel	Enal st
Frame	Fr
Glass	Gl
Stucco	Stco
Stone	Stn
Tile	Tile
Metal	Mtl
STORY HEIGHTS	
For this story height	**Use this abbreviation**
One-story	1s
One and one-half stories	1-1/2s
Two stories	2s
Bi-level	Bi
Tri-level	Tri
GARAGE OR CARPORT	
For this item	**Use this abbreviation**
Basement garage	Bsmt G
Carport	CP
Garage	G
Integral garage	IG
GARAGE CAR CAPACITY	
For this capacity	**Use this abbreviation**
One car capacity	1c
One and one-half car capacity	1+c
Two car capacity	2c
Two and one-half car capacity	2+c

Three car capacity	3c
Exterior Features	
For this feature	**Use this abbreviation**
Balcony	Balc
Brick patio	BrP
Canopy – shed type	Cnpy
Canopy – roof extension	RFX
Concrete patio	Conc P
Concrete terrace	Conc T
Enclosed frame porch	EFP
Enclosed masonry porch	EMP
Flagstone patio	FsP
Masonry stoop	MStp
Open frame porch	OFP
Open masonry porch	OMP
Portico	Port
Wood deck	WdDk
Wood patio	WdP
Miscellaneous Features	
For this feature	**Use this abbreviation**
Car shed	CS
Party wall	PW
Unfinished interior	UF

Example 1: When entering abbreviations, include the information in the following order: story height; construction material; and special feature, such as an overhang or bay. To indicate a one-story frame bay on a dwelling, enter: 1sFrBay.

Example 2: *If the dwelling has a garage or carport*, include the abbreviations for the car capacity and construction type. To indicate a two car brick garage, enter: 2cBrG.

Example 3: *If the dwelling has an attic*, enter the abbreviation for the attic over the abbreviation for the base component, and separate them by a horizontal line. To indicate a two-story brick dwelling with an attic, enter:

A

2sBr

Example 4: *If the dwelling has basement or crawl space*, enter the abbreviation for the basement or crawl space under the abbreviation for the base component, and separate them by a horizontal line. To indicate a one-story frame dwelling with a 1/2 crawl space, enter:

$$\frac{\text{1sFr}}{\text{½C}}$$

Example 5: *If the dwelling has mixed construction features*, the abbreviation for the construction material of the upper story is entered over the abbreviation for the lower story. To indicate a two-story dwelling with upper story frame construction and lower story brick construction, enter:

$$\frac{\text{1sFr}}{\text{1sBr}}$$

Completing a Property Record Card

The sections below describe in detail how to complete each relevant section of the state's version of the Residential Property Record Card for a dwelling unit. ***Figure 3-3*** shows the side of the property record card that you complete for a dwelling. As you read these instructions, keep in mind that your county's property record card may be slightly different.

Note: If the parcel has two or more free-standing dwellings, or row-type dwellings that are different from each other, record the data for each dwelling on a separate property record card.

Providing Descriptive Data

Before you can determine the replacement cost of a dwelling, you need to describe its features and construction. The steps for recording descriptive data about a dwelling are grouped into the following tasks, described in the sections below:

- **Task 1**—Complete the sketch grid.
- **Task 2**—Record the dwelling's general characteristics.
- **Task 3**—Record information about the dwelling's construction and floor areas.

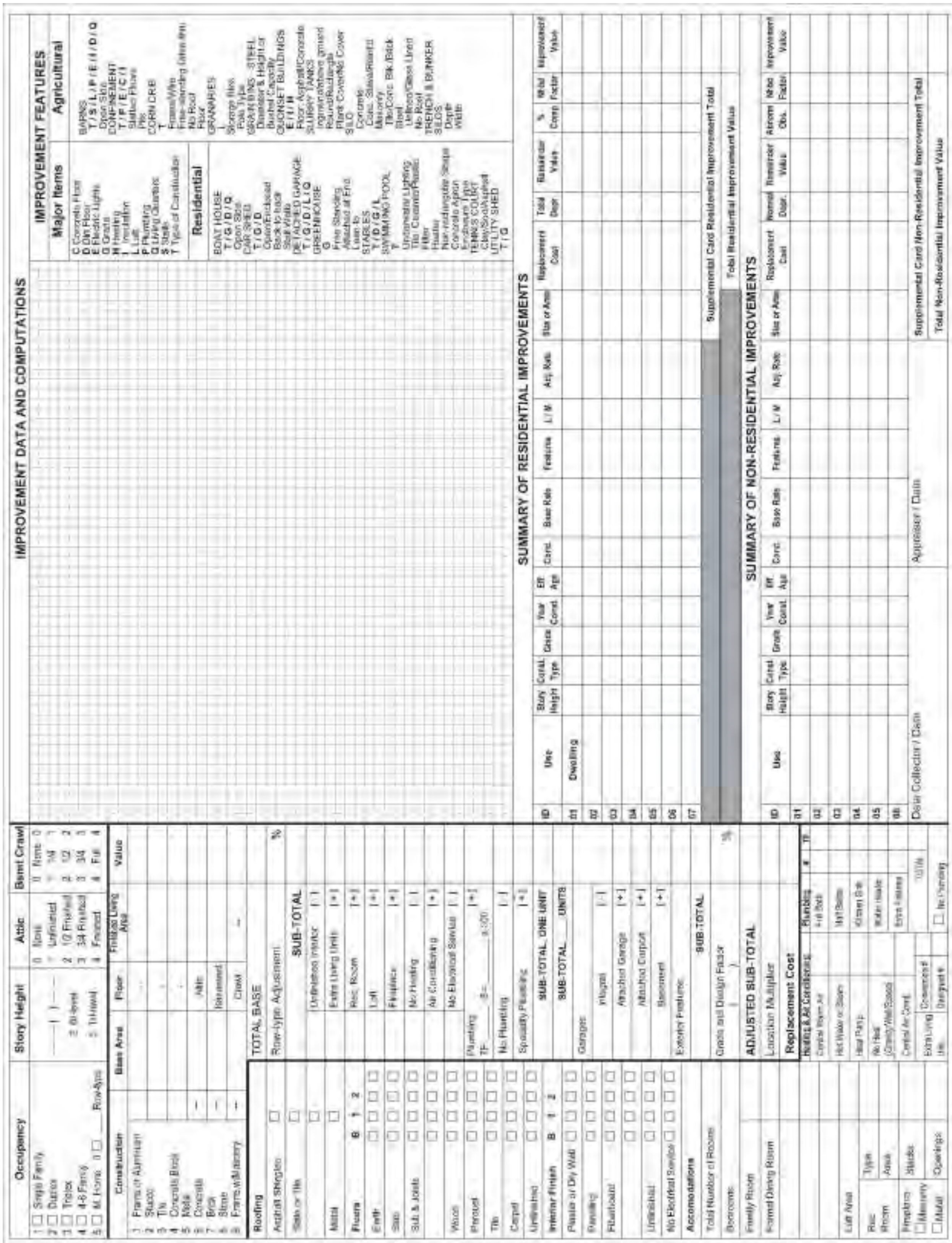


Figure 3-3. Sketch Grid

Task 1—Completing the Sketch Grid

You record the physical characteristics of the dwelling and yard improvements on the parcel on the back of the property record card. A sketch grid, shown in ***Figure 3-4***, is provided on the property record card to make a plain view sketch of the dwelling on the property. On the sketch grid, you also indicate the source of the data collected for the property.

To complete the sketch grid on the property record card, perform these steps:

STEP 1 Draw the dwelling to scale as closely as possible. Orient the dwelling with the side facing the street toward the bottom of the sketch grid.

STEP 2 On your sketch, enter all outside dimensions of the dwelling required to compute the gross square foot ground area. Guidelines are provided in the section ***Measuring and Calculating Areas*** in this chapter.

STEP 3 Compute the gross square foot ground area of the dwelling.

STEP 4 Enter the story height of the dwelling. Information about determining story height is provided in the section ***Determining the Story Description*** in this chapter.

STEP 5 Identify all additions to the dwelling, such as porches, canopies, decks, and other exterior features, and their:

- outside dimensions
- computed gross square foot ground area
- story height.

STEP 6 Use abbreviations and symbols to label components of the dwelling in the sketch area. Guidelines are provided in the section ***Labeling the Sketch Grid*** in this chapter.

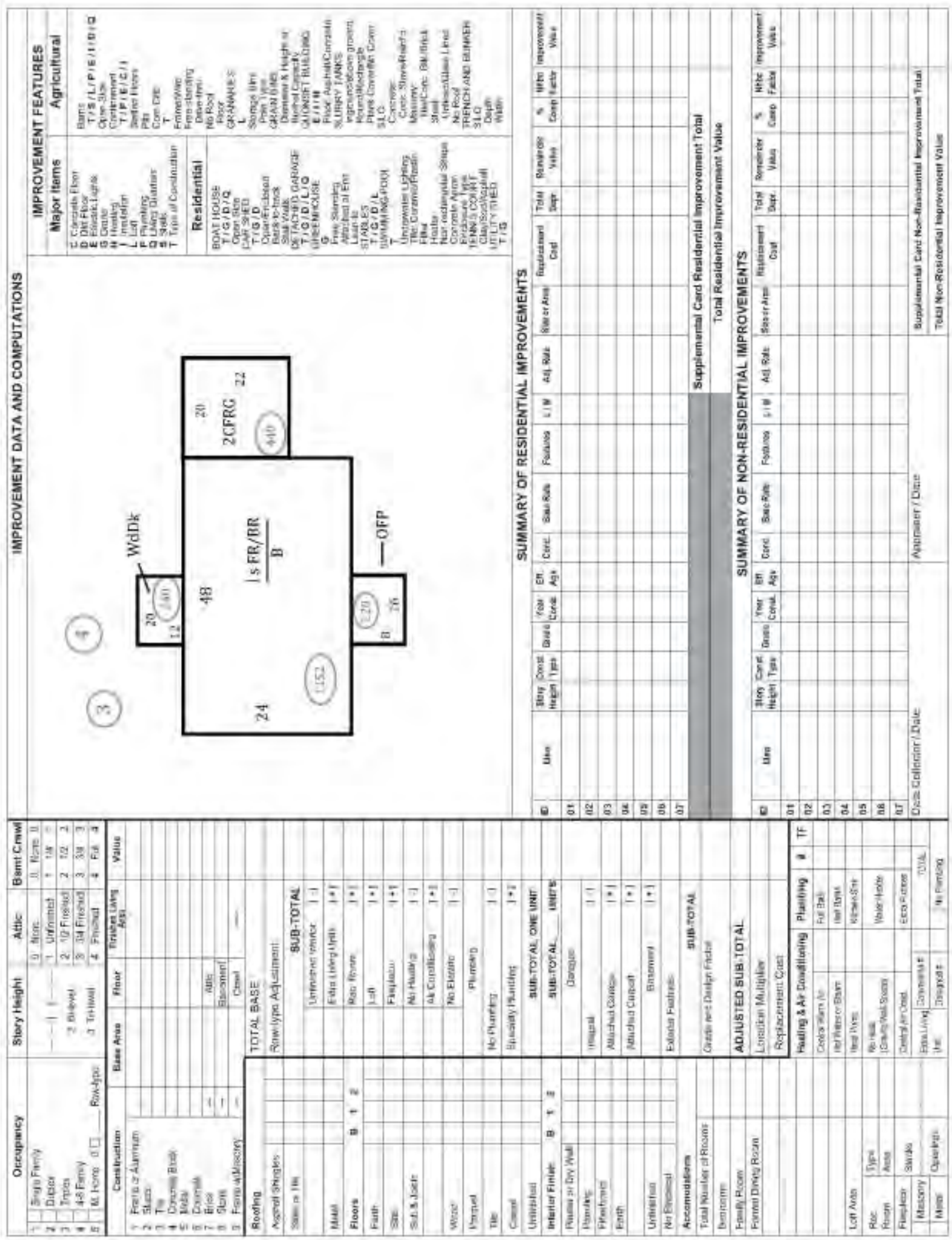


Figure 3-4. Sketch Grid

STEP 7 To indicate the source of the property data, circle the appropriate letter or letters listed in the bottom left of the sketch grid. ***Table 3-4*** describes the options.

Table 3-4. Source of Property Data Options

This option	Indicates
O	Owner
T	Tenant
E	Estimated
N	Dwelling was not entered, information was obtained at the door.

Task 2—Recording General Characteristics

The property record card provides space, shown in ***Figure 3-5***, to record a general description of the dwelling.

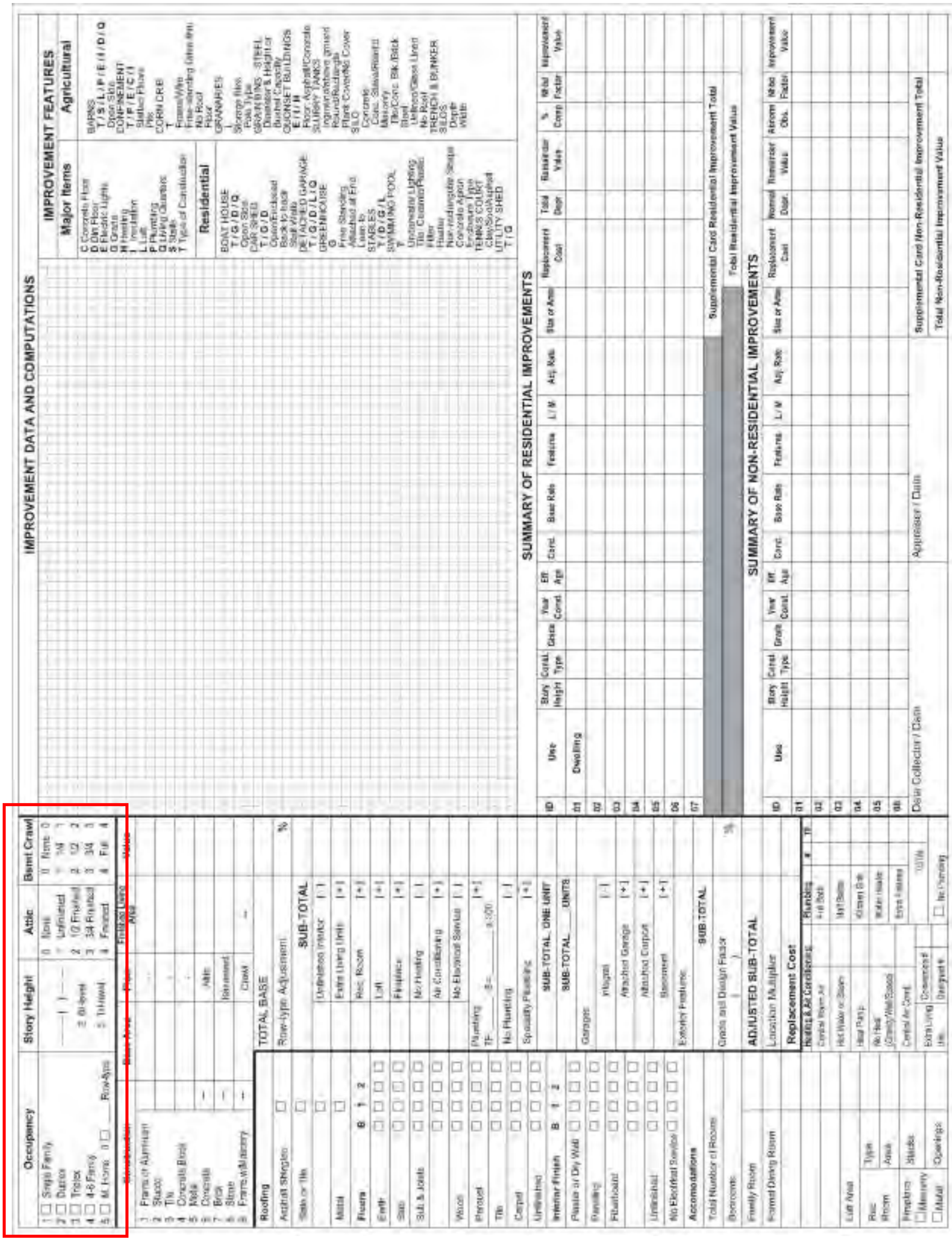


Figure 3-5. Providing a General Description of the Dwelling

To record a general description of the dwelling, perform the following steps:

STEP 1 In the "Occupancy" section, place a check in the check box corresponding to the occupancy for which the dwelling was designed. If the dwelling is free standing, check only one of the options. If the dwelling consists of row type or attached units, check more than one option. ***Table 3-5*** describes the occupancy options.

Note: When determining the occupancy for which the dwelling was designed, always treat basement and attic living units as conversion units, regardless of whether they were incorporated into the original design.

Table 3-5. Occupancy Options

This option	Indicates
1	A dwelling designed for occupancy by one family with one living unit. *If the dwelling has been converted for occupancy by two or more families*, enter the number of current living units in the check box instead of a check.
2	A two-story dwelling designed for occupancy by two families, with one living unit on each floor. *If the dwelling has been converted for occupancy by three or more families*, enter the number of living units in the check box instead of a check.
3	A three-story family dwelling designed for occupancy by three families, with one living unit on each floor. *If the dwelling has been converted for occupancy by four or more families*, enter the number of living units in the check box instead of a check.
4	A detached, free-standing two or three-story dwelling, with two living units on each floor that are accessed by a center hall. *If the dwelling has been converted for occupancy by five or more families in the case of a four-family design, or seven or more families in the case of a six-family design,* enter the number of living units in the check box instead of a check.
5	A dwelling unit designed as a manufactured home or a mobile home. Instructions for valuing a manufactured home or a mobile home as real property are provided in Chapter 4.

This option	Indicates
6	Dwelling units separated by vertical common walls, such as two-family doubles or townhouses. Row-types are generally a series of single-family dwelling units. Follow these guidelines: ■ Place a check in the "Row-Type" check box. ■ On the line provided to the left of "Row-Type," enter the total number of row-type units in the entire building, even if the other dwelling units are different in appearance from the unit that you sketched. ■ *If there are two to three units, the units have single ownership*, *the same square footage, and the same physical characteristics*, list and record the data, except exterior features, for one unit. The replacement cost of the building is computed by multiplying the cost of one unit by the number of units within the building. ■ *If there are two to three units, the units have single ownership*, *different square footage or physical characteristics*, sketch, list, and record the data for each style unit on individual property record cards. The replacement cost of the building is computed by totaling the cost of all the units contained within the building. ■ *If the units have individual ownership*, sketch, list, and record the data for each individual unit on a separate property record card. The replacement cost of each unit is calculated and assessed separately. This procedure applies to all individually-owned platted row-type units regardless of the number of units contained within the structure. Such units are found in horizontal property regime or planned unit development properties. ■ *If there are four or more units and the units have single ownership*, the structure is considered commercial and priced from the commercial pricing guidelines as an apartment building.

STEP 2 In the "Story Height" section, identify the story height of the dwelling. ***Table 3-6*** describes the story height options. Circle one-story height option for the dwelling.

If neither the bi-level nor tri-level description applies to the dwelling, enter the most representative story height in the space provided at the top of the Story Height. The space appears as

__ . __ [ ] __

Enter the information as follows:

- In the first two character positions, enter the story height, excluding the basement. Record the story height in half-story increments. For example, enter 1.0 for one-story, 1.5 for one and one-half stories, 2.0 for two stories, and so forth. There is no limit to the number of stories.
- In the bracket and the character positions to the right, enter the wall height adjustment to account for intermediate wall heights, if necessary. Enter "+" or "–" in the bracket, and "1" in the character position to indicate plus or minus one-half, the difference between the given story height and the next one-half story increment.

Table 3-6. Story Height Options

This option	Indicates
2	A two-level (bi-level) design in which the first floor is partially below grade and the entry or foyer is on a level between the first and second floors. This design also is referred to as a "raised ranch."
3	A split-level (tri-level) design of three or more levels, not including the basement.

STEP 3 In the "Attic" section, circle the code that best describes the attic. ***Table 3-7*** describes the attic options.

Table 3-7. Attic Options

This option	Indicates
0	No attic
1	An unfinished attic with only a subfloor and stairs
2	A divided attic with approximately one-half of the area finished and one-half unfinished
3	Either a divided attic with approximately three-fourths of the area finished and one-fourth unfinished, or an undivided attic that is fully finished
4	A divided and fully finished attic

STEP 4 In the "Bsmt" section, circle the code that best describes the basement. ***Table 3-8*** describes the basement options.

Table 3-8. Basement Options

This option	Indicates
0	No basement

This option	Indicates
1	Basement is approximately 1/4 of the first floor base area
2	Basement is approximately 1/2 of the first floor base area
3	Basement is approximately 3/4 of the first floor base area
4	Basement is approximately all of the first floor base area

STEP 5 In the “Crawl” section, circle the code that best describes the crawl space. ***Table 3-9*** describes the crawl space options.

Table 3-9. Crawl Space Options

This option	Indicates
0	No crawl space
1	Crawl space is approximately 1/4 of the first floor base area
2	Crawl space is approximately 1/2 of the first floor base area
3	Crawl space is approximately 3/4 of the first floor base area
4	Crawl space is approximately all of the first floor base area

Task 3—Recording Information About the Construction and Floor Areas

The property record card provides space, shown in ***Figure 3-6***, to record information about the construction of the dwelling unit, as well as the floor area information necessary to determine the total base price for the dwelling unit.

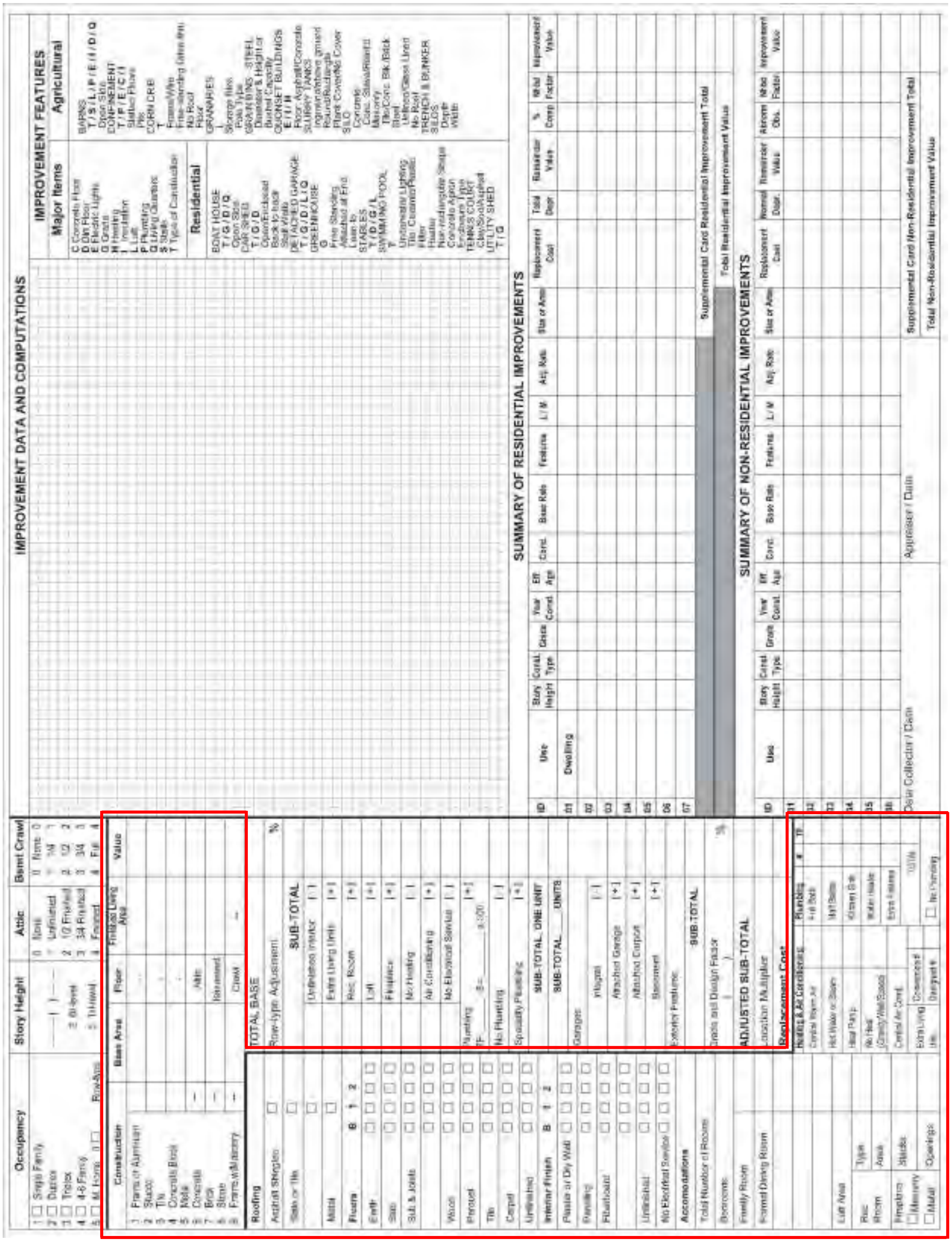


Figure 3-6. Describing the Construction and Providing Floor Area Information

To complete this section of the property record card, perform these steps:

STEP 1 In the "Construction" section, record the base area for each floor, the exterior wall construction, the story height, and the amount of finished living area:

a. Enter the area of each floor on a separate row in the "Base Area" column.

If the dwelling has an attic, basement, or crawl space, enter each area in the appropriate row.

b. Determine the dwelling's exterior wall type for each story and enter the corresponding code in the column to the left of the "Base Area" column. Follow these guidelines:

- *If a story has a mixture of similar exterior wall type materials such as frame (codes 1 through 5) or masonry (codes 6 through 8)*, record the exterior wall type code that represents the majority material of the story.
- Code 9 applies only to mixed frame and masonry exterior wall construction, and requires a two-digit code. This code represents a 1/6 increment interpolation procedure between the cost difference for frame and masonry construction. ***Table 3-10*** describes the two-digit codes.

Table 3-10. Mixed Frame and Masonry Wall Construction Codes

This code	Indicates
91	Frame construction with masonry on approximately half of the surface area of one side, or the full surface area of one end
92	Frame construction with masonry on approximately the full surface area of one side, or the full surface area of both ends
93	Half frame construction and half masonry construction
94	Predominantly masonry construction in which the full surface of both sides, or one side and both ends are masonry
95	Predominantly masonry construction in which the full surface of both sides, and one end are masonry

c. In the "Floor" column, record each story height in half story increments. For intermediate story heights, record a "+1" or a "–1" to record the difference of a half story.

d. In the “Finished Living Area” column, record the total finished area for each floor, as well as for the attic and basement.

The square foot area of an unfinished utility area or an integral garage is not included in the “Finished Living Area” square footage.

Note: This column is optional unless there is finished area in the basement or attic. Then you must enter the finished area in those rows.

STEP 2 In the “Roofing” section, place a check in the check box corresponding to the dwelling’s predominant roofing material. If more than one material is used, indicate the other materials by entering “p” for part in the check box instead of a check. A blank line is provided to record any roofing material other than those listed.

STEP 3 In the “Floors” section, check the floor construction and the finish flooring for each floor. Follow these guidelines:

- The column heading “B” indicates basement, “1” indicates first floor, “2” indicates second floor, and the undesignated column can be used to indicate a third floor or attic.
- *If there is more than one upper floor and the construction or finish is not consistent*, enter the floor level “2”, “3”, “4”, or “A” for attic in the check box instead of a check.
- *If there is more than one type of floor construction or finish on one floor*, enter “p” for part in the check box instead of a check.

STEP 4 In the “Interior Finish” section, check the finish for each floor, as well as the basement and the attic, if applicable. Follow these guidelines:

- The column heading “B” indicates basement, “1” indicates first floor, “2” indicates second floor, and the undesignated column can be used to indicate a third floor or attic.
- *If the finish of any of the floors is not consistent*, enter the number of rooms to which the finish applies in the check box instead of a check.
- *If no electrical service is supplied to any individual floor levels*, place a check in the appropriate floor level check box in the “No Electrical Service” row.

STEP 5 In the “Accommodations” section, enter the number of specific rooms and fireplaces in the dwelling:

a. In the “Total Number of Rooms” cell, enter the total number of finished rooms, bathrooms, and utility rooms. When counting rooms, a kitchen-dining or living-dining combination is considered one room.

b. In the “Bedrooms” cell, enter the total number of rooms specifically designed as bedrooms, regardless of use.

c. In the "Family Room" cell, enter the total number of family rooms and informal living rooms with a quality of finish consistent with the general finish of the dwelling. There is a separate entry for basement recreation rooms.

d. In the "Formal Dining Room" cell, enter the total number of rooms specifically designed for dining, regardless of use.

e. *If there are any rooms used for commercial purposes*, such as a commercial office, beauty salon, or any other room not typical of residential dwellings, list the room(s) in the blank space provided below "Formal Dining Room". To the right of this cell, enter the total number of these rooms. In the "Memorandum" section, enter a brief description of the commercial activity and the approximate commercial square footage.

f. In the "Loft Area" cell, enter the approximate square footage of the loft's floor area. A loft is a finished platform-type area overlooking the first floor. A loft usually appears in a structure with cathedral type ceilings and is not to be confused with areas of a dwelling that have partial or full exterior walls that make the dwelling a one and one-half story to a two-story dwelling.

g. *If there are any basement recreation rooms that add value to the dwelling*, use ***Table 3-11*** to determine the appropriate code for the basement recreation room, and enter the code in the "Type" cell. Record the approximate area in the "Area" cell.

Table 3-11. Basement Recreation Room Codes

This code	Indicates the presence of
Rec 1	Flooring and ceiling finish
Rec 2	Flooring, ceiling, and interior wall finish
Rec 3	Flooring, ceiling, interior wall finish, and partitioning
Rec 4	Flooring, ceiling, interior wall finish, partitioning, and built-ins

h. *If there are any fireplaces*, indicate the construction type, number of stacks, and number of openings. Follow these guidelines:

- *If the fireplace is a prefabricated metal type, ventless gas*, or vent-free gas place a check in the "Metal" check box. In the "Stacks" cell, enter the total number of stacks. In the "Openings" cell, enter the total number of fire openings.
- *If the fireplace is the traditional masonry type*, place a check in the "Masonry" check box. In the "Stacks" cell, enter the total number

of stacks. In the "Openings" cell, enter the total number of openings.

STEP 6 In the "Heating & Air Conditioning" section, indicate the type of heating system that the dwelling has. Follow these guidelines:

- Place a check in the cell corresponding to the type of heating that the dwelling has.
- *If the dwelling has a heating system other than those listed*, write a description in the blank space provided and place a check in the corresponding cell.
- *If a dwelling has a geothermal or solar heating system as its sole central heating system*, place a check in the "No Heat" cell and write "geothermal heating only" or "solar heating only" in the blank space provided.
- *If the dwelling has no central heating system*, place a check in the "No Heat" cell, and circle "Gravity", "Wall", or "Space".
- *If there is central heating for a portion of a finished living area*, enter those floors or that area instead of a check. A partial adjustment to the base price is made when a portion of the dwelling does not have a central heating system.

STEP 7 Also in the "Heating & Air Conditioning" section, place a check in the "Central Air Cond." cell to indicate that the dwelling has either a separate or combined central air conditioning system. Follow these guidelines:

- *If there is central air conditioning for only a portion of a finished living area*, enter those floors or that area instead of a check.
- *If the dwelling has a heat pump listed as the heating system*, place a check in the "Central Air Cond." cell.
- *If the dwelling has a geothermal or solar cooling system as its sole central cooling system*, do ***not*** enter a check in the "Central Air Cond." cell. Geothermal and solar systems are priced in the "Summary of Improvements" section of the Property Record Card from schedules included in ***Appendix C***.

STEP 8 In the "Extra Living Unit" cell, enter the number of either conversion living units or designed living units over and above the base unit included in the residential model. For example, a three-story dwelling designed for occupancy by three families would have one unit included in the residential model and the number 2 recorded in the designed extra living unit cell.

Note: All basement and attic living units are to be considered as conversion units.

STEP 9 In the "Plumbing" section, enter the number of full and half baths, kitchen sinks, water heaters, and extra fixtures in the "#" column. In the "TF" column, enter the total number of plumbing fixtures in each category. Follow these guidelines:

- *If the dwelling does not have plumbing*, place a check in the “No Plumbing” check box.
- A full bath has three plumbing fixtures and a one-half bath has two fixtures.
- A total of more or fewer than five fixtures requires an adjustment in the dwelling’s base price. The following five plumbing fixtures are included in the base price:
  - — kitchen sink
  - — water heater
  - — bathroom sink
  - — bathroom stool
  - — bathtub or shower unit.
- The presence of a designed or conversion living unit accounts for five plumbing fixtures within the dwelling. These five fixtures are not recorded in the “Plumbing” section. Any extra living unit plumbing fixtures above or below the included five should be recorded in the “Plumbing” section.

Completing the Replacement Cost Pricing Ladder

This section describes how to determine the replacement cost of the dwelling using the section of the Residential Property Record Card commonly referred to as the replacement cost pricing ladder. The steps for completing this section of the property record card are grouped into the following tasks, described in the sections below:

- **Task 1**—Determine the dwelling's base price.
- **Task 2**—Determine and apply any necessary row-type adjustments to the dwelling's base price.
- **Task 3**—Determine and apply any interior feature adjustments to the dwelling's base price.
- **Task 4**—Determine and apply any exterior feature adjustments to the dwelling's base price.
- **Task 5**—Record and apply the dwelling's grade to calculate the adjusted sub-total.
- **Task 6**—Determine and apply the location cost multiplier adjustment to calculate the dwelling's replacement cost.

Task 1—Determining the Base Price

Cells are provided on the Residential Property Record Card to determine the base price of the dwelling, as shown in ***Figure 3-7***.

Figure 3-7. Cells Used to Determine Base Price

Use ***Schedule A–Dwelling Base Prices***, provided in ***Appendix C***, to determine the base price of the dwelling. The schedule consists of two parts:

- prices that are based on the size of the single-family dwelling, type of exterior walls, and the number of story heights
- prices for unfinished attics, finished attics, unfinished basements, finished basements, and crawl spaces.

The procedure for developing the total base price from ***Schedule A*** is to select the base price for the main living area of the dwelling and add the appropriate amounts for attics, basements, and crawl spaces.

Schedule A includes prices for areas ranging from 100 to 5,000 square feet. Within this range, the price is listed in two different increments, depending on the area:

- For an area of 100 to 4,000 square feet, the prices are listed in intervals of 25 square feet.
- For an area of 4,000 to 5,000 square feet, the prices are listed in intervals of 250 square feet.

To determine the base price of a dwelling, perform the following steps:

STEP 1 Use ***Schedule A*** to determine the base price of the dwelling's first floor:

a. In the "Area" column, locate the row corresponding to the area closest to the first floor's area.

b. Locate the appropriate column below the heading "First Floor." *If the primary wall type is Type 1, 2, 3, 4, or 5*, use the column "1-5". *If the primary wall type is Type 6, 7, or 8*, use the column "6-8".

c. Find the intersection of the selected row (area in square feet) and the selected column. Note the number that you find.

d. *If the area is between 4,000 and 5,000 square feet*, interpolate the base price between the prices for the two closest areas. Each interval of 25 square feet is equal to 10% of the increment price. Note this number instead of the number found in Step 1(c).

If the area is over 5,000 square feet, use the difference between the base price for 4,750 square feet and for 5000 square feet to calculate the amount to add to the base price for 5000 square feet for the additional square footage. Note this number instead of the number found in Step 1(c).

e. *If the first floor has an exterior wall code of 91 through 95*, locate the "+" column below the heading "First Floor" and perform Step 1(f) through Step 1(h).

f. Find the intersection of the selected row (area in square feet) and the selected column. Note the number that you find.

g. Multiply the number found in Step 1(f) by the number of increments of masonry identified for the dwelling. If the wall code is 92, multiply the number from Step 1(f) by 2.

   Add the result to the number found in Step 1(c) or Step 1(d). Note this number.

h. Calculate the base price for the first floor by multiplying the number by $100, round the number to the nearest $10, and enter it in the first row of the "Value" column on the property record card.

STEP 2 *If the dwelling has one and one-half stories*, use ***Schedule A*** to determine the base price of the one-half story:

a. In the "Area" column, locate the row corresponding to the area closest to the half story's area.

b. Locate the appropriate column below the heading "Half Upper Story" using the explanation in Step 1(b).

c. Find the intersection of the selected row (area in square feet) and the selected column. Note the number that you find.

d. *If the area is larger than 4,000 square feet*, interpolate the base price following the guidelines in Step 1(d).

e. *If the half story has an exterior wall type code of 91 through 95*, locate the "+" column below the heading "Half Upper Story", and determine the adjustment by performing Steps 1(f) through 1(h).

f. Calculate the base price for the one-half story by multiplying the number by $100, and enter it in the appropriate row of the "Value" column on the property record card.

STEP 3 *If the dwelling has an intermediate story height*, use ***Schedule A*** to determine the base price of the intermediate story:

a. In the "Area" column, locate the row corresponding to the area closest to the half story's area.

b. Locate the appropriate column below the heading "(+/-1)" using the explanation in Step 1(b).

c. Find the intersection of the selected row (area in square feet) and the selected column. Note the number that you find.

d. *If the area is larger than 4,000 square feet*, interpolate the base price following the guidelines in Step 1(d).

e. Calculate the base price for the intermediate story by multiplying the number by $100 to arrive at the dollar amount of the base price, and enter it in the appropriate row of the "Value" column on the property record card.

STEP 4 *If the dwelling has two stories*, use ***Schedule A*** to determine the base price of the second story:

a. In the "Area" column, locate the row corresponding to the area closest to the second story's area.

b. Locate the appropriate column below the heading "Full Upper Story" using the explanation in Step 1(b).

c. Find the intersection of the selected row (area in square feet) and the selected column. Note the number that you find.

d. *If the area is larger than 4,000 square feet*, interpolate the base price following the guidelines in Step 1(d).

e. *If the second story has an exterior wall code of 91 through 95*, locate the "+" column below the heading "Full Upper Story", and determine the adjustment by performing Steps 1(f) through 1(h).

f. Calculate the base price for the second story by multiplying the number by $100, and enter it in the appropriate row of the "Value" column on the property record card.

STEP 5 *If the dwelling has an unfinished attic*, use ***Schedule A*** to determine the base price of the attic:

–**Note:** The square foot area used in the calculation for an attic is the base ground floor area and not the actual attic floor. The attic cost schedules included in ***Schedule A*** consider the loss of floor area and wall height in typical attic construction.

a. In the "Area" column, locate the row corresponding to the area closest to the attic area.

b. Locate the "Unfin Attic" column.

c. Find the intersection of the selected row (area in square feet) and the "Unfin Attic" column. Note the number that you find.

d. Calculate the base price for the unfinished attic by multiplying the number found in Step 5(c) by $100, and enter it in the appropriate row of the "Value" column on the property record card.

STEP 6 *If the dwelling has an attic with finished area*, use ***Schedule A*** to determine the base price of the attic:

a. Determine the base price of the unfinished attic area by performing Step 5.

b. In the "Area" column, locate the row corresponding to the area closest to the finished attic area.

c. Locate the "Attic Fin" column.

d. Find the intersection of the selected row (area in square feet) and the "Attic Fin" column. Note the number that you find.

e. Calculate the base price for the finished area of the attic by multiplying the number found in Step 6(d) by $100. Note the result.

f. Calculate the base price for the attic by summing the base price for the unfinished area (calculated in Step 6(a)) and the base price for the finished area (calculated in Step 6(e)), and enter it in the appropriate row of the "Value" column on the property record card.

STEP 7 *If the dwelling has an unfinished basement*, use ***Schedule A*** to determine the base price of the basement:

a. In the "Area" column, locate the row corresponding to the area closest to the basement area.

b. Locate the "Unfin Bsmt" column.

c. Find the intersection of the selected row (area in square feet) and the "Unfin Bsmt" column. Note the number that you find.

d. Calculate the base price for the basement by multiplying the number found in Step 7(c) by $100, and enter it in the appropriate row of the "Value" column on the property record card.

STEP 8 *If the dwelling has a basement with a finished area*, use ***Schedule A*** to determine the base price of the basement:

–**Note:** A basement containing finish consistent with the remainder of the dwelling is considered as a finished basement. This is normally defined as basement living quarters. An area having finish inconsistent with the remainder of the dwelling is considered as a basement recreation room.

a. Determine the base price of the unfinished basement area by performing Step 7(a) through 7(c).

b. In the "Area" column, locate the row corresponding to the area closest to the finished basement area.

c. Locate the "Bsmt Fin" column.

d. Find the intersection of the selected row (area in square feet) and the "Bsmt Fin" column. Note the number that you find.

e. Calculate the base price for the finished area multiplying the number found in Step 8(d) by $100. Note the result.

f. Calculate the base price for the basement by summing the base price for the unfinished area (calculated in Step 8(a)) and the base price for the finished area (calculated in Step 8(e)), and enter it in the appropriate row of the "Value" column on the property record card.

STEP 9 *If the dwelling has a crawl space*, use ***Schedule A*** to determine the base price of the crawl space:

a. In the "Area" column, locate the row corresponding to the area closest to the crawl space area.

b. Locate the "Crawl" column.

c. Find the intersection of the selected row (area in square feet) and the "Crawl" column. Note the number that you find.

d. Calculate the base price for the crawl space by multiplying the number found in Step 9(c) by $100, and enter it in the appropriate row of the "Value" column on the property record card.

STEP 10 Calculate the total base price by summing the numbers from the first six rows of the "Value" column, and enter the sum in the "Total Base" cell.

STEP 11 *If the dwelling is **not** a row-type dwelling*, transfer the value in the "Total Base" cell to the "Sub-Total" cell.

Example 1: To determine the base price for a dwelling with 4,628 square feet of area, round to the nearest 25 square feet, or 4,625 square feet. To determine the number of 25 square foot intervals between 4,500 and 4,625, subtract 4,500 from 4625 to obtain 125 square feet. Divide 125 by 25 to obtain five 10% intervals or 50%. Multiply 50% by the difference between the two prices (provided in ***Schedule A***). Add this incremental price to the price provided for 4500 square feet.

Example 2: To determine the base price for a dwelling with 5,650 square feet of area, use the increment difference between 4,750 square feet and 5,000 square feet for the next 250 square feet and each 250 square feet thereafter. When interpolation becomes necessary within the 250 square feet interval, repeat the procedures described in "example 1" above. Add the incremental price to the price provided for 5000 square feet.

Example 3: To determine the base price for a two-story dwelling with a base floor area of 800 square feet at each floor level, locate the row for 800 in the "Area" column. Then note the numbers in this row for the "First Floor" and "Full Upper Story" columns. Multiply the two numbers by $100 and record the result in the corresponding pricing ladder cells.

Example 4: To determine the base price for a two-story dwelling with a base floor area of 800 square feet and ~~the an~~an upper floor area of 920 square feet, locate the row for 800 in the "Area" column. Note the number for this row in the "First Floor" column. Locate the row that falls closest to 920, which is 925. Note the number for this row in the "Full Upper Story" column. Multiply the two numbers by $100 and record the results in the corresponding pricing ladder cells.

Example 5: To determine the base price for a one-story dwelling, 50 feet by 22 feet, with aluminum siding exterior wall construction and a one-half brick front, first find the base price for a one-story dwelling with aluminum siding and then add the adjustment for brick. Locate the row for 1,100 in the "Area" column, and locate the column for "1-5" under the "First Floor" heading. Find the intersection of the selected row and column, and note the number that you find. To determine the adjustment for brick, locate the row for 1,100 in the "Area" column, and locate the column for "+" under the "First Floor" heading. Find the intersection of the selected row and column, and note the number that you find. Add the two numbers together and multiply by $100 to arrive at the base price for the dwelling.

Example 6: To determine the value of the basement in a 1,200 square foot dwelling with a one-half basement that has 400 square feet of finished area, locate the row for 600 in the "Area" column. Locate the "Unfin Bsmt" column, find the intersection of the selected row and column, and note the number that you find. Locate the row for 400 in the "Area" column and the "Bsmt Fin" column. Find the intersection of the selected row and column, and note the number that you find. Add the two numbers together and multiply by $100 to arrive at the value of the basement.

Task 2—Determining and Applying the Row-Type Adjustments

If the dwelling is a residential row-type dwelling, use ***Schedule B—Row-Type Adjustments***, provided in ***Appendix C***, to determine the appropriate adjustment to the base price, calculated in Task 1. This schedule lists percentage adjustments based on the wall type and number of units within the dwelling.

Cells are provided on the Residential Property Record Card to determine the row-type adjustment of the dwelling, as shown in ***Figure 3-8***.

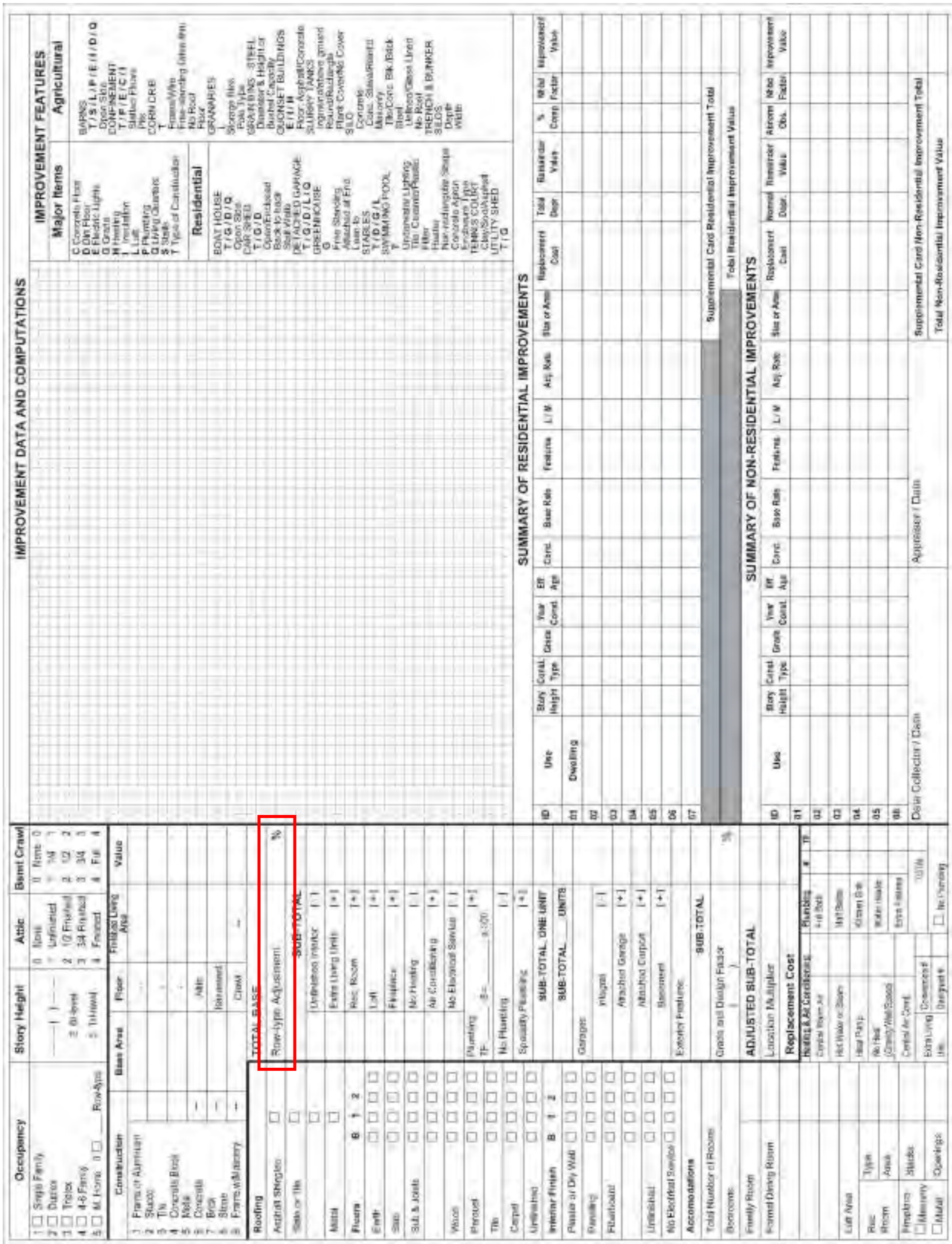


Figure 3-8. Cells Used to Determine Row-Type Adjustments

Follow these guidelines to determine whether one or more property record cards must be completed for the row-type dwelling units:

- *If there are two or three units, the units have single ownership*, *the same square footage, and the same physical characteristics*, list and record the data, except exterior features, for one unit. The replacement cost of the building is computed by multiplying the cost of one unit by the number of units within the building.
- *If there are two or three units, the units have single ownership*, *different square footage or physical characteristics*, sketch, list, and record the data for each style unit on individual property record cards. The replacement cost of the building is computed by totaling the cost of all the units contained within the building.
- *If the units have individual ownership*, sketch, list, and record the data for each individual unit on a separate property record card. The replacement cost of each unit is calculated and assessed separately. This procedure applies to all individually owned platted row-type units regardless of the number of units contained within the structure. Such units are found in horizontal property regime or planned unit development properties.

Note: Single ownership wood joist buildings containing 4 or more row-type units are considered as commercial row-type structures and valued from the GCR apartment schedule.

To determine the adjustment for a row-type dwelling, use ***Schedule B*** and perform these steps:

STEP 1 In the wall type column, locate the row corresponding to the wall type of the dwelling.

STEP 2 Locate the column below the heading "Total Number of Units" that corresponds to the total number of units in the building.

STEP 3 Find the intersection of the selected row (wall type) and the selected column (number of units). Enter the number that you find in the "Row-type Adjustment" cell on the property record card.

STEP 4 Apply the adjustment for a row-type dwelling by multiplying the value in the "Total Base" cell by the value in the "Row-type Adjustment" cell and enter the result, rounded to the nearest $10, in the "Sub-Total" cell.

Example: To determine the base price for an all brick row-type dwelling with 1,200 square feet, and two equally-sized units, first compute the base price of one unit. Then determine the adjustment using ***Schedule B***. Locate the "Brick of Equal Wall Types" row and the "2" column. Find the intersection of the selected row and column, and enter the number that you find in the "Row-type Adjustment" cell on the property record card. Multiply the value in the "Total Base" cell by the value in the "Row-type Adjustment" cell and enter the result in the "Sub-Total" cell.

Task 3—Determining and Applying the Interior Feature Adjustments

Use ***Schedule C***—Base Price Components and Adjustments, ***Schedule D***—Plumbing and Built-ins, and ***Schedule E.1***—Interior Features, provided in ***Appendix C***, to determine any adjustments for interior features that need to be made to the dwelling's base price.

Schedule C consists of two parts:

- deductions for an unfinished interior, no central heating, and no electrical service
- additions for central air conditioning, basement recreation room, and loft.

Schedule C includes prices for areas ranging from 100 to 5,000 square feet. Within this range, the price is listed in two different increments, depending on the area:

- For an area of 100 to 4,000 square feet, the prices are listed in intervals of 100 square feet.
- For an area of 4,000 to 5,000 square feet, the prices are listed in intervals of 1000 square feet.
- For an area over 5,000 square feet, extrapolation in 1,000 square foot increments is necessary. This is accomplished by finding the difference between 4,000 square feet and 5,000 square feet and applying that to each 1,000 square feet increment above 5,000 square feet.

Schedule D consists of three parts:

- additions and deductions for plumbing and number of fixtures
- additions for additional living units within the dwelling
- additions for specialty plumbing items.

Schedule E.1 includes additions for fireplaces.

Cells are provided on the Residential Property Record Card to determine the interior feature adjustments for the dwelling, as shown in ***Figure 3-9***.

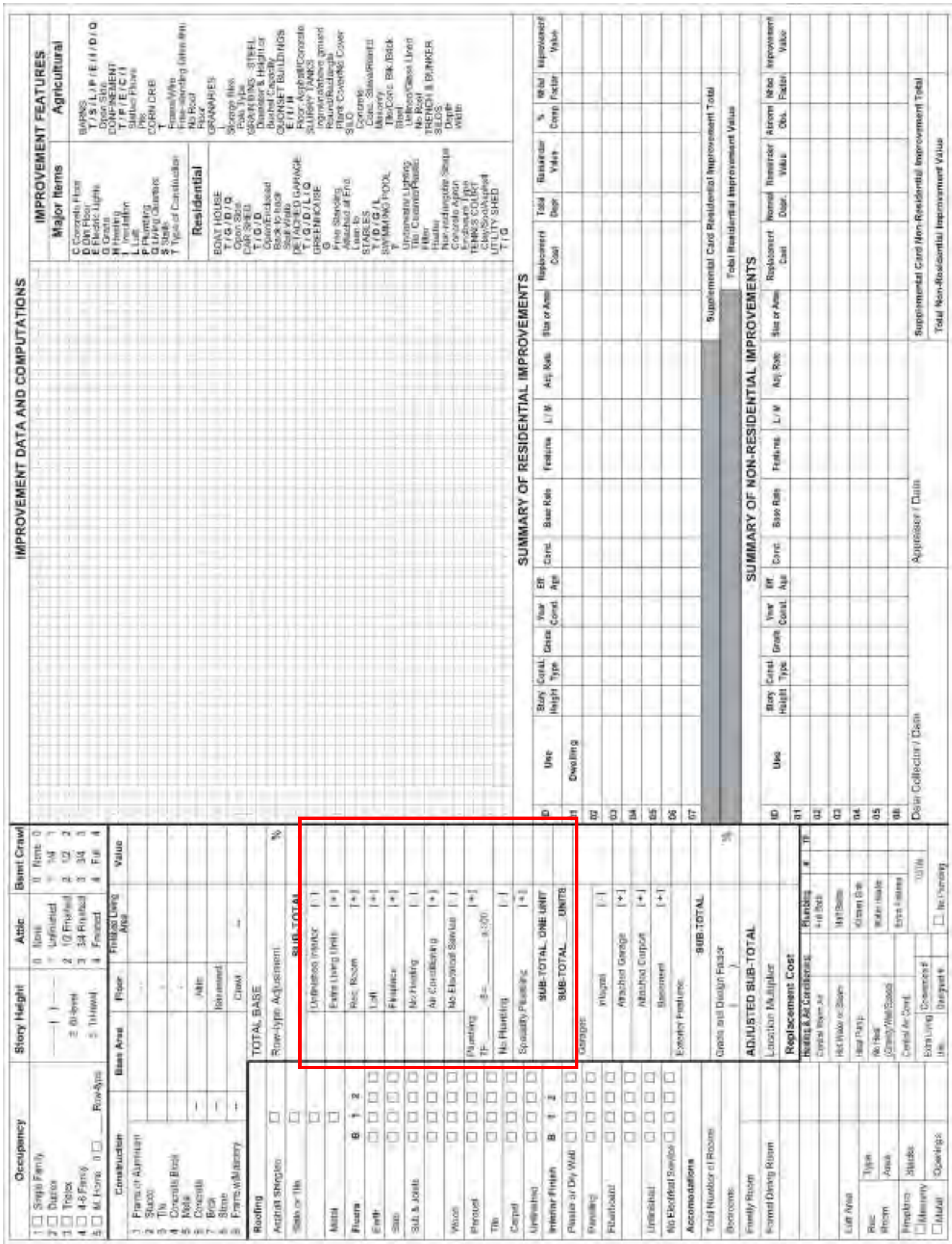


Figure 3-9. Cells Used to Determine the Interior Features Adjustments

To determine the interior feature adjustments to make to the base price for the dwelling, perform the following steps:

STEP 1 *If the dwelling has an unfinished interior*, use ***Schedule C*** to determine the appropriate deduction from the base price for the dwelling

a. *If the unfinished area is on the first story*, locate the row in the "Area" column corresponding to the square footage of the area with an unfinished interior on the first floor, if any.

Find the intersection of the selected row (area in square feet) and the "Full Story" column below the heading "Unfinished Interior". Note the number that you find.

b. *If the dwelling is a one and one-half story dwelling and there is unfinished area on the half story*, locate the row in the "Area" column corresponding to the square footage of the unfinished area on the half story.

Find the intersection of the selected row (area in square feet) and the "Half Story" column below the heading "Unfinished Interior". Note the number that you find.

c. *If the dwelling is a two-story dwelling and there is unfinished area on the second story*, locate the row in the "Area" column corresponding to the square footage of the unfinished area on the second story.

Find the intersection of the selected row (area in square feet) and the "Full Story" column below the heading "Unfinished Interior". Note the number that you find.

d. Sum the numbers found in Step 1(a) through Step 1(c).

e. Calculate the adjustment for an unfinished interior by multiplying the number found in Step 1(d) by $100, and enter it in the "Unfinished Interior" cell.

Note: This deduction includes an adjustment for heating, so you do not need to make a separate deduction for heating.

Example 1: To determine the deduction for a bi-level, two-story dwelling with 300 square feet of unfinished interior on the lower level, locate the row for 300 in the "Area" column. Then note the number in this row for the "Full Story" column. Multiply the number by $100.

Example 2: To determine the deduction for a one and one-half story dwelling with a ground floor base area of 1,000 square feet and an unfinished second floor, locate the row for 1,000 in the "Area" column. Then note the number in this row for the "Half Story" column. Multiply the number by $100.

Example 3: To determine the deduction for a one and one-half story dwelling with a ground floor base area of 1,000 square feet with 50% of the second floor unfinished, determine that the unfinished area is 500 square feet (1,000 x .50 = 500). Locate the row for 500 in the "Area" column. Then note the number in this row for the "Half Story" column. Multiply the number by $100.

STEP 2 *If the dwelling does not have a central heating system*, use ***Schedule C*** to determine the appropriate deduction from the base price for the dwelling:

Note: Central heating systems include forced air, electric baseboard, hot water, and steam heating systems. Types of systems not considered to be central heating systems are space heaters, wall furnaces, and gravity flow floor furnaces. The no central heating deduction also applies to a dwelling that has a solar or geothermal heating system as its sole source of heat. If a dwelling has a solar or geothermal heating system and a backup or reserve system, the no central heating deduction does not apply.

a. In the "Area" column, locate the row corresponding to the square footage of the area without central heating on the first floor, if any.

Find the intersection of the selected row (area in square feet) and the "First Floor" column. Note the number that you find.

b. *If the dwelling is a one and one-half story dwelling and there is space without central heating on the half story*, locate the row in the "Area" column corresponding to the square footage of the area without central heating on the half story.

Find the intersection of the selected row (area in square feet) and the "Half Upper" column below the heading "No Central Heating". Note the number that you find.

c. *If the dwelling is a two-story dwelling and there is space without central heating on the second story*, locate the row in the "Area" column corresponding to the square footage of the area without central heating on the second story.

Find the intersection of the selected row (area in square feet) and the "Full Upper" column. Note the number that you find.

d. *If the dwelling has finished attic space without central heating*, locate the row in the "Area" column corresponding to the amount of square footage used to calculate the finished attic.

Find the intersection of the selected row (area in square feet) and the "Attic" column. Note the number that you find.

e. Sum the numbers found in Step 2(a) through Step 2(d).

f. Calculate the adjustment for no central heating by multiplying the number found in Step 2(e) by $100, and enter the amount in the "No Heating" cell on the property record card.

Example 1: To determine the deduction for a one and one-half story dwelling with a ground floor base area of 1,000 square feet, an upper floor the same size, and no central heating on either floor, first locate the row for 1,000 in the "Area" column (the area on the first floor with no central heating). Then note the number in this row for the "First Floor" column. Second, locate the row for 1,000 in the "Area" column (the area of the upper floor with no central heating). Then note the number in this row for the "Half Upper" column. Add the two numbers together and multiply their sum by $100.

Example 2: To determine the deduction for a one and one-half story dwelling with a ground floor base area of 1,000 square feet, an upper floor the same size, and a central heating system on the first floor only, locate the row for 1,000 in the "Area" column (the area of the upper floor with no central heating). Then note the number in this row for the "Half Upper" column. Multiply the number by $100.

Example 3: To determine the deduction for a partial one-story and partial two-story dwelling with a ground floor base area of 1,200 square feet, an upper floor of 800 square feet, and no central heating on either floor, first locate the row for 1,200 in the "Area" column (the area on the first floor with no central heating). Then note the number in this row for the "First Floor" column. Second, locate the row for 800 in the "Area" column (the area of the upper floor with no central heating). Then note the number in this row for the "Full Upper" column. Add the two numbers together and multiply their sum by $100.

Example 4: To determine the deduction for a two-story dwelling with a ground floor base area of 1,000 square feet, a full finished attic, and no central heating system in the attic, locate the row for 1,000 in the "Area" column (the area of the upper floor with no central heating). Then note the number in this row for the "Attic" column. Multiply the number by $100.

STEP 3 *If the dwelling does not have electrical service*, use ***Schedule C*** to determine the appropriate deduction from the base price for the dwelling:

a. In the "Area" column, locate the row corresponding to the square footage of the area without electrical service on the first floor, if any.

Find the intersection of the selected row (area in square feet) and the "First Floor" column. Note the number that you find.

b. *If the dwelling is a two-story dwelling and there is no electrical service on the second story*, locate the row in the "Area" column corresponding to the square footage of the second story.

Find the intersection of the selected row (area in square feet) and the "Upper Floor" column. Note the number that you find.

c. Sum the numbers found in Step 3(a) and Step 3(b).

d. Calculate the adjustment for no electrical service by multiplying the sum found in Step ~~C~~ 3(c) by $100, and enter the amount in the "No Electrical Service" cell on the property record card.

STEP 4 *If the dwelling has a central air conditioning system*, use ***Schedule C*** to determine the appropriate addition to the base price for the dwelling:

a. In the "Area" column, locate the row corresponding to the square footage of the area with central air conditioning on the first floor, if any.

Find the intersection of the selected row (area in square feet) and the "First Floor" column. Note the number that you find.

b. *If the dwelling is a one and one-half-story dwelling and there is space with central air conditioning on the half story*, locate the row in the "Area" column corresponding to the square footage of the area with central air conditioning on the half story.

Find the intersection of the selected row (area in square feet) and the "Half Upper/Loft" column below the heading "Central Air Conditioning". Note the number that you find.

c. *If the dwelling is a two-story dwelling and there is space with central air conditioning on the second story*, locate the row in the "Area" column corresponding to the square footage of the area with central air conditioning on the second story.

Find the intersection of the selected row (area in square feet) and the "Full Upper" column. Note the number that you find.

d. *If the dwelling has finished attic space with central air conditioning*, locate the row in the "Area" column corresponding to the square footage of the area with central air conditioning in the attic.

Find the intersection of the selected row (area in square feet) and the "Attic" column. Note the number that you find.

e. Sum the numbers found in Step 4(a) through Step 4(d).

f. Calculate the adjustment for central air conditioning by multiplying the number found in Step 4(e) by $100, and enter the amount in the "Air Conditioning" cell on the property record card.

Example 1: To determine the addition for a one and one-half story dwelling with a ground floor base area of 1,000 square feet, an upper floor the same size, and central air conditioning on both floors, first locate the row for 1,000 in the "Area" column (the area on the first floor with central air conditioning). Then note the number in this row for the "First Floor" column. Second, locate the row for 1000 in the "Area" column (the area of the upper floor with central air conditioning). Then note the number in this row for the "Half Upper" column. Add the two numbers together and multiply their sum by $100.

Example 2: To determine the addition for a one and one-half story dwelling with a ground floor base area of 1,000 square feet, an upper floor the same size, and a central air conditioning system on the first floor only, locate the row for 1,000 in the "Area" column (the area of the first floor with central air conditioning). Then note the number in this row for the "First Floor" column. Multiply the number by $100.

Example 3: To determine the addition for a tri-level dwelling with a ground floor base area of 1,200 square feet, a second floor of 950 square feet, and central air conditioning throughout, first locate the row for 1,200 in the "Area" column (the area on the first floor with central air conditioning). Then note the number in this row for the "First Floor" column under the heading "Central Air Conditioning". Second, locate the row for 1,000 in the "Area" column (the entry in the table closest to the area of the upper floor with central air conditioning). Then note the number in this row for the "Full Upper" column. Add the two numbers together and multiply their sum by $100.

STEP 5 *If the dwelling has a basement recreation room*, use ***Schedule C*** to determine the appropriate addition to the base price for the dwelling:

- **a.** In the "Area" column, locate the row corresponding to the square footage of the basement recreation room.
- **b.** Locate the column below the heading "Basement Recreation Room" that corresponds to the type of the basement recreation room.
- **c.** Find the intersection of the selected row (area in square feet) and the selected column (recreation room type). Note the number that you find.
- **d.** Calculate the adjustment for a basement recreation room by multiplying the number found in Step 5(c) by $100, and enter the amount in the "Rec. Room" cell.

STEP 6 *If the dwelling has a loft*, use ***Schedule C*** to determine the appropriate addition to the base price for the dwelling:

- **a.** In the "Area" column, locate the row corresponding to the square footage of the loft.
- **b.** Locate the "Loft" column.
- **c.** Find the intersection of the selected row (area in square feet) and the "Loft" column. Note the number that you find.

d. Calculate the adjustment for a loft by multiplying the number found in Step 6(c) by $100, and enter the amount in the "Loft" cell.

STEP 7 *If the dwelling does not have plumbing*, use ***Schedule D*** to determine the appropriate deduction:

a. Find the value that corresponds to "Deduct for no plumbing per living unit" and multiply it by $100 to arrive at the dollar amount of the deduction.

b. Enter the result in the "No Plumbing" cell.

STEP 8 *If the dwelling has water service only*, use ***Schedule D*** to determine the appropriate deduction:

a. Find the value that corresponds to "Deduct for water only" and multiply it by $100 to arrive at the dollar amount of the deduction.

b. Enter the result in the "No Plumbing" cell.

STEP 9 *If the dwelling has more or fewer than five plumbing fixtures*, use ***Schedule D*** to determine the appropriate addition or deduction:

a. In the "Plumbing" cell label, enter the dwelling's total number of plumbing fixtures on the line to the right of "TF:".

b. Subtract 5 from the total number of fixtures.

c. Calculate the adjustment by multiplying the number found in Step 9(b) by the per fixture cost.

If there are specialty plumbing fixtures, note the result and perform Step 10.

STEP 10 *If a bathtub has a jet or a steam conversion*, *or there is a sauna bath, steam bath, or whirlpool,* use ***Schedule D*** to determine the appropriate addition:

a. Find the value corresponding to the type of specialty item and multiply it by $100.

b. Add the result to the number found in Step 9(c) and enter the amount in the "Specialty Plumbing" cell.

STEP 11 *If there is an extra living unit in the dwelling*, use ***Schedule D*** to determine the appropriate addition to the base price of the dwelling:

a. *If the living unit was originally designed as an individual family unit*, find the value that corresponds to "Designed".

b. *If the living unit was a space converted to accommodate an additional family*, find the value that corresponds to "Conversion".

c. Calculate the adjustment for an extra living unit by multiplying the appropriate value from ***Schedule D*** by $100, and enter the amount in the "Extra Living Units" cell.

STEP 12 *If the dwelling has fireplaces*, use ***Schedule E.1*** to determine the appropriate addition to the base price of the dwelling:

a. Locate the "First Opening" row and the column that best describes the fireplace type.

b. Find the intersection of the selected row (first opening) and the selected column. Note the number that you find.

c. *If there are any additional openings*, locate the "Each Additional Opening" row and the column that best describes the fireplace type.

d. Find the intersection of the selected row and the selected column. Note the number that you find. Multiply the number by the amount of additional openings in the dwelling.

e. Calculate the adjustment for fireplaces by summing the number for the first fireplace (found in Step 12(b)) and the number for any additional fireplace openings (found in Step 12(d)), and multiplying the result by $100. Enter the result in the "Fireplace" cell.

STEP 13 Locate the sub-total amount found in Task 1, Step 4 and apply the additions and deductions determined in Step 1 through Step 12 above. Enter the result in the "Sub-Total, One Unit" cell.

STEP 14 *If the dwelling is a row-type dwelling*, enter the number of units in the "Sub-Total, _Units" cell label. Multiply the number of units by the number in the "Sub-Total, One Unit" cell and enter the result in the "Sub-Total, Units" cell.

Task 4—Determining and Applying the Exterior Features Adjustments

Use ***Schedule E.2***—Garages & Carports and ***Schedule E.2***—Exterior Features, provided in ***Appendix C***, to determine the adjustments for exterior features that need to be made to the dwelling's base price.

Cells are provided on the Residential Property Record Card to determine the exterior features adjustments for the dwelling, as shown in ***Figure 3-10***.

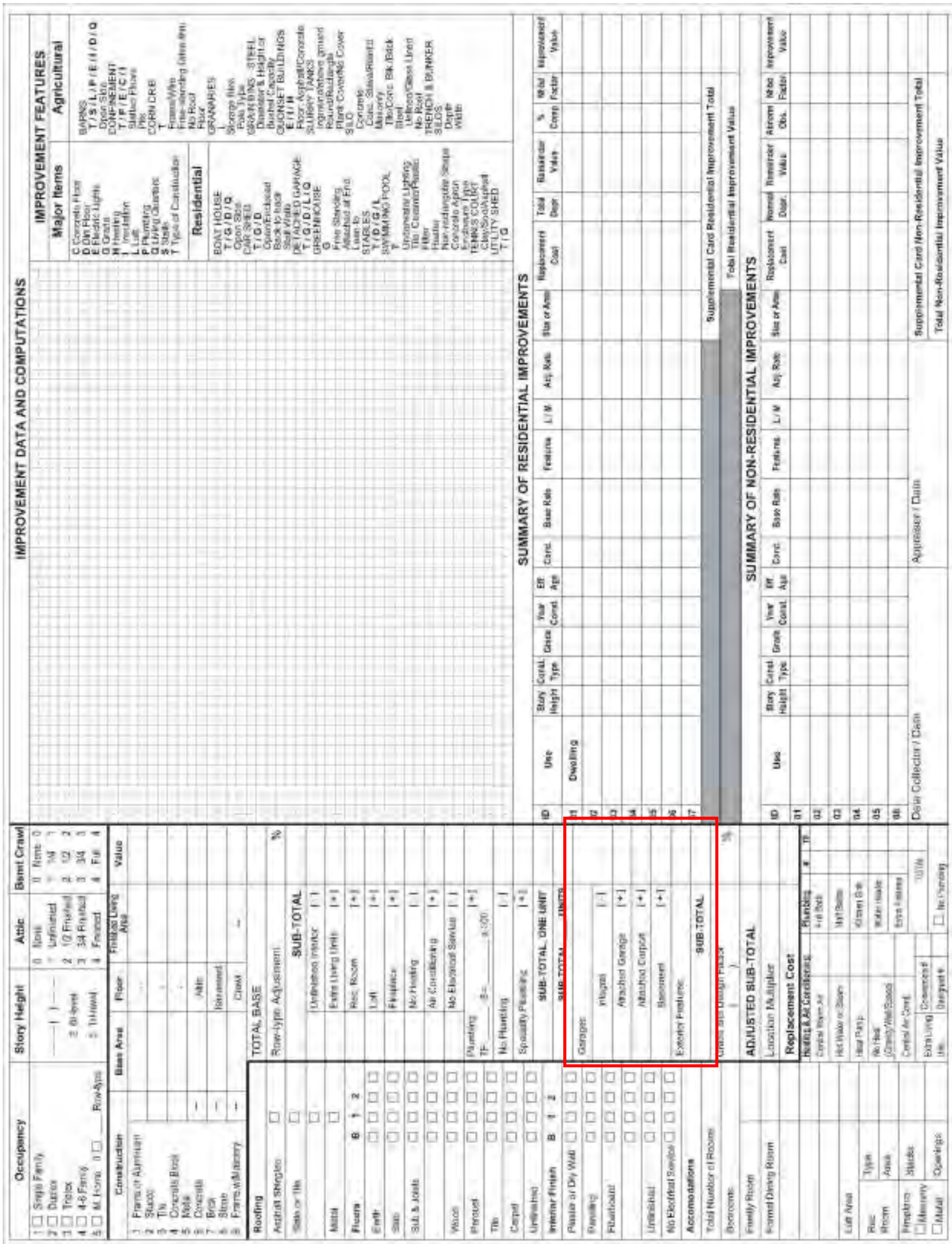


Figure 3-10. Cells Used to Determine the Exterior Features Adjustments

To determine the exterior feature adjustment, perform the following steps:

STEP 1 *If the dwelling has an attached, basement or integral garage, or an attached carport*, use ***Schedule E.2—Garages & Carports*** and perform the following steps to determine the addition or deduction:

Note: Detached garages and carports are considered residential yard structures and are valued in the "Summary of Improvements" section of the property record card. Additional information is provided in Chapter 5.

a. Find the area of the garage to the nearest 50 square feet. It is not necessary to interpolate. Enter the area in the cell to the left of the garage type cell label on the property record card.

b. Locate the row that corresponds to the garage type.

c. Locate the column that corresponds to the area and car capacity of the garage.

d. Find the intersection of the selected row (garage type) and the selected column (area in square feet and car capacity). Note the number that you find.

If the garage is larger than 1,200 square feet, first find the adjustment for 1,200 square feet. Then find the intersection of the selected row (garage type) and the "+50" column to determine the amount to add to that adjustment for each additional 50 square feet.

e. Calculate the adjustment for a garage by multiplying the number found in Step 1(d) by $100, and enter the amount in the appropriate cell in the Garages section of the property record card.

STEP 2 *If the dwelling has an exterior feature such as a patio, canopy, portico, stoop, porch, bay window, deck, balcony, or solarium*, use ***Schedule E.2—Exterior Features*** to determine the addition:

a. Locate the row that corresponds to the exterior feature.

b. Locate the column that corresponds to the closest area of the exterior feature.

c. Find the intersection of the selected row (exterior feature type) and the selected column (area in square feet). Note the number that you find.

If the feature is larger than 400 square feet, first find the adjustment for 400 square feet. Then find the intersection of the selected row and the "Per 100" column to determine the amount to add to that adjustment for each additional 100 square feet.

d. Repeat Step 2(a) through Step 2(c) for each exterior feature. Add together the values found for all exterior features.

e. Calculate the adjustment for exterior features by multiplying the sum found in Step 2(d) by $100, and enter the amount in the "Exterior Features" cell on the property record card.

STEP 3 Locate the sub-total amount found in Task 3, Step 13 or Step 14 and apply the additions and deductions determined in Step 1 and Step 2 above. Enter the result in the "Sub-Total" cell.

Task 5—Recording and Applying the Grade

The adjusted sub-total of a dwelling is the base price of the dwelling, adjusted to take into account any relevant features identified for the dwelling and the dwelling's grade. Use ***Schedule F***, provided in ***Appendix C***, to determine the percentage adjustment to be made to the base price, based on the grade assignment. Cells are provided to record and apply the grade assigned to the dwelling and to determine the dwelling's adjusted sub-total, as shown in ***Figure 3-11***.

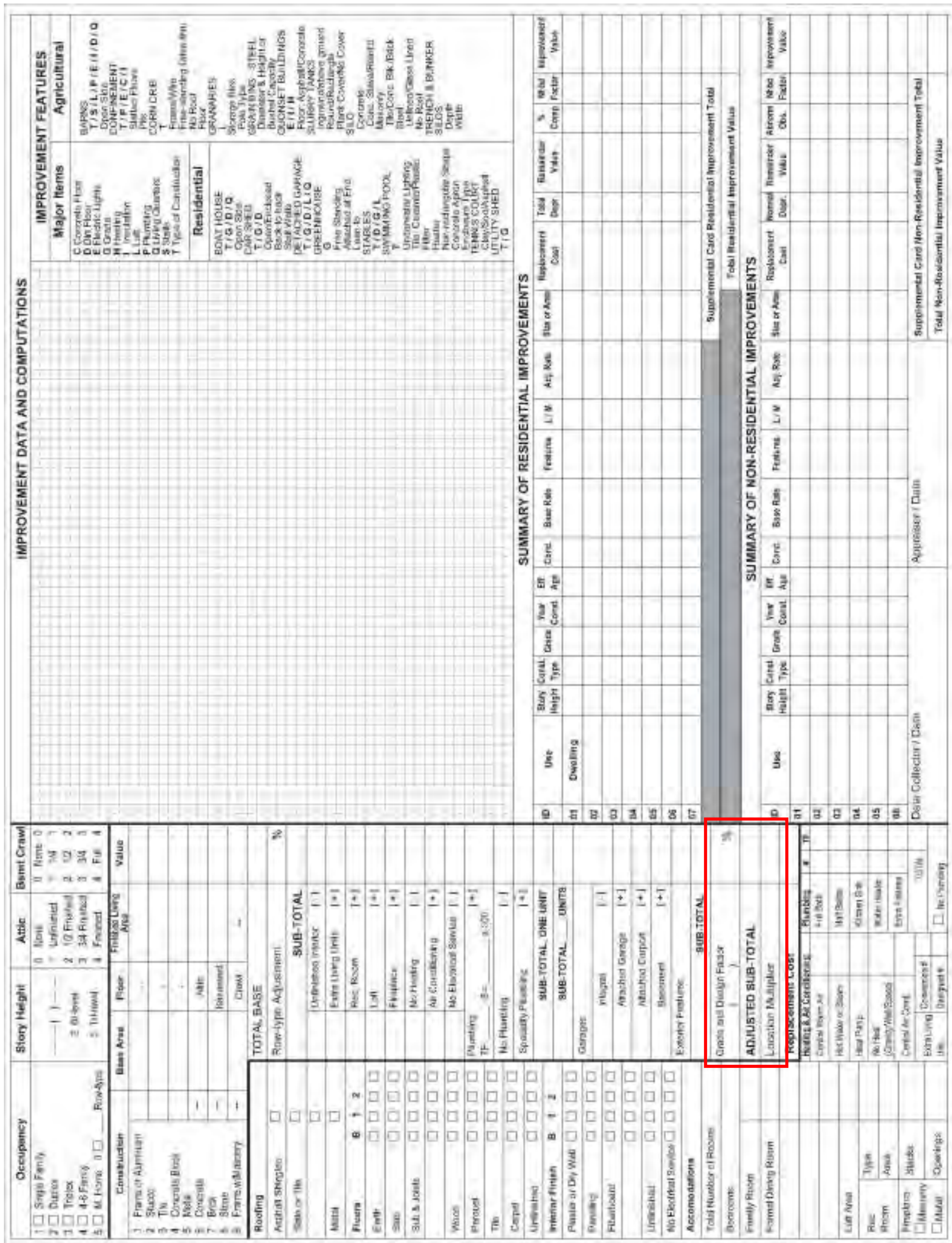


Figure 3-11. Cells Used to Record the Grade and Location Multiplier to Calculate the Replacement Cost

To determine the grade adjustment and to calculate the adjusted sub-total of the dwelling, perform the following steps:

STEP 1 Next to the "Grade and Design Factor" cell label on the property record card, enter the letter grade assigned to the dwelling. Information about determining the grade for a dwelling is provided in ***Appendix A***.

STEP 2 In the "Grade and Design Factor" cell, enter the grade factor percentage corresponding to the dwelling's grade. Instructions for determining the grade factor percentage for a dwelling using ***Schedule F*** are provided in the section ***Assigning Grades to Dwelling Units*** in ***Appendix A***.

STEP 3 Divide the grade factor percentage corresponding to the dwelling's grade by 100 to arrive at a multiplier.

STEP 4 Calculate the dwelling's adjusted sub-total by multiplying the amount in the "Sub-Total" cell (entered in Task 4, Step 3) by the multiplier obtained in Step 3. Enter the result in the "Adjusted Sub-Total" cell.

Task 6—Determining and Applying the Location Cost Multiplier

The cell labeled "Location Multiplier" is used to make an adjustment to the costs found in ***Appendix C***. Due to the fact that costs are relative to location, we have included location cost multipliers, by county, to account for these differences. The table indicating the multiplier for your county and a more detailed explanation of location cost multipliers can be found in ***Appendix C***.

STEP 1 Locate the multiplier in ***Table C-1*** for your county.

STEP 2 Place the multiplier from ***Table C-1*** in the "Location Multiplier" cell on the property record card.

STEP 3 Calculate the adjustment for location by multiplying the location cost multiplier by the "Adj. Sub Total" cell.

STEP 4 Place the product of Step 3 in the "Replacement Cost" cell, rounded to the nearest $10.

Completing the Summary of Residential Improvements Section

The "Summary of Residential Improvements" section of the property record card, shown in ***Figure 3-12***, provides space to record information about:

- the dwelling
- a detached garage (if it is the sole garage)
- improvements to the dwelling during non-reassessment years.

The addition schedule is designed to value stick-built room additions to mobile and manufactured homes during the general reassessment and to value room additions to dwellings in the interim years between general reassessment years. Room additions added to existing dwellings before ~~March~~ January 2, 2019~~1~~, must be calculated as part of the original structure and depreciated based on the age or the effective age in combination with the main structure.

The addition schedule is divided into three distinct sections depending on the type of addition constructed. Each section is based on the square footage of the addition and the type of construction. The sections are interpreted as follows:

- **Three-wall addition attached at one end**. An addition in which the common wall between the dwelling and the room addition is the smallest dimension of a rectangular structure.
- **Three-wall addition attached at one side**. An addition in which the common wall between the dwelling and the room addition is either the longest dimension of a rectangular structure or one side of a square structure.
- **Two-wall addition**. An addition in which only two walls are needed to enclose the structure.

Each section lists either frame or masonry type walls with values to be added for additions that contain half or full upper stories, basements, or crawl spaces. The schedule is similar to other schedules in that the construction type and square footage of the addition must be known to arrive at the base cost. Adjustments to this cost are made using ***Schedule A***, ***Schedule C***, ***Schedule D*** (to add for plumbing), ***Schedule E***, and ***Schedule F***.

This section describes how to complete the "Summary of Residential Improvements" section for a dwelling. Enter the information for the dwelling in the "01 Dwelling" row.

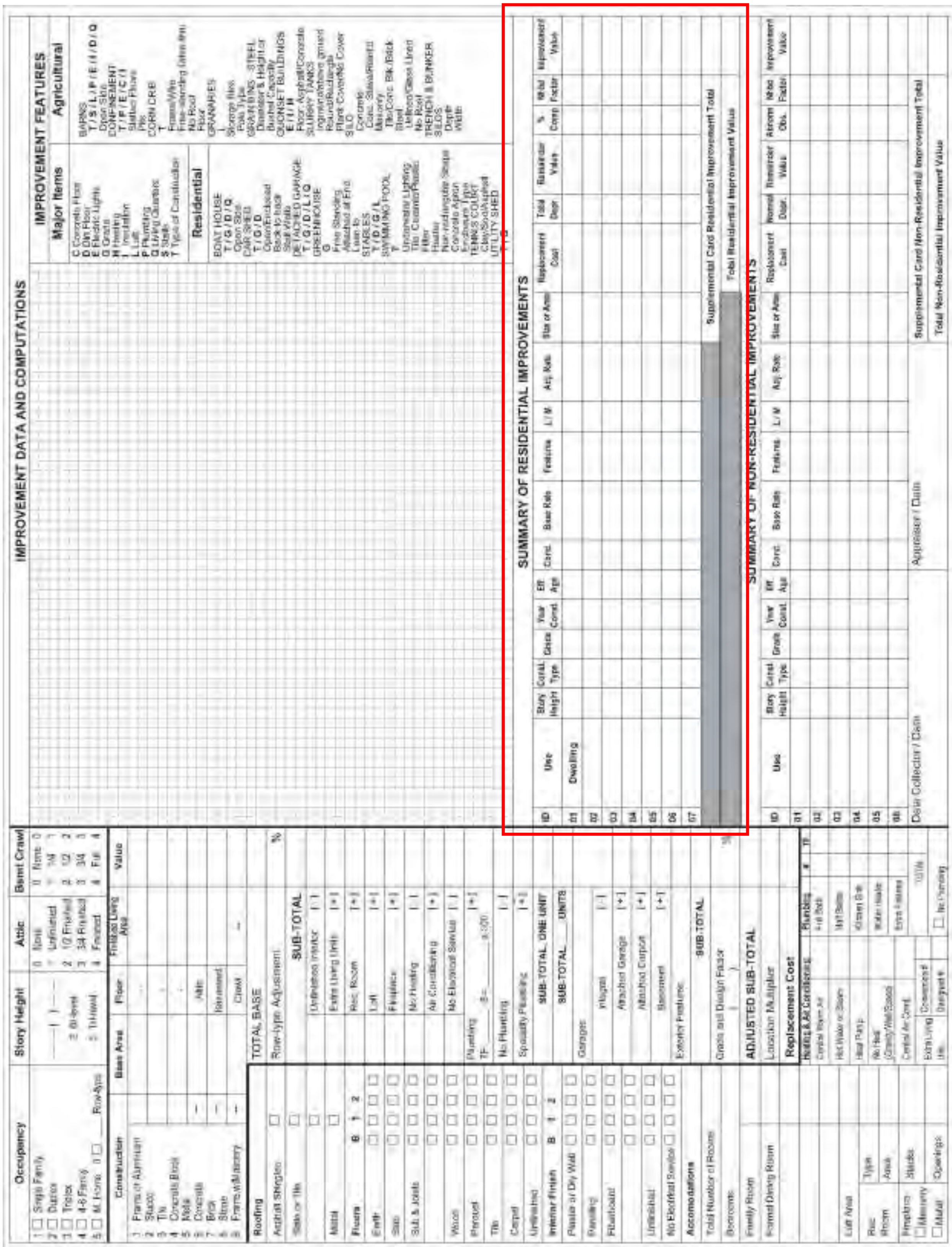


Figure 3-12. Summary of Residential Improvements Section

To complete the "Summary of Residential Improvements" section for the dwelling, perform these steps:

STEP 1 In the "Story Height" column, enter the story height of the dwelling as it appears in the sketch grid.

STEP 2 In the "Year Const." column, indicate when the dwelling was originally constructed. Follow these guidelines:

- *If you are sure of the date*, enter just the date, for example "1990".
- *If you (the assessor) must estimate the date*, enter the date followed by a question mark, for example "1985?".
- *If the owner estimates the date*, enter the date followed by "+/-", (for example "1985+/-").
- *If the dwelling was constructed prior to 1941*, enter "Old".

STEP 3 In the "Cond." column, enter the code indicating the assigned condition rating of the dwelling. ***Table 3-12*** describes the codes for this column. For information on assigning the condition rating, see ***Appendix B***.

Table 3-12. Condition Ratings

CONDITION RATING	EXPLANATION OF CHARACTERISTICS
Excellent	The structure is in near perfect condition. It is very attractive and is highly desirable. It meets all current design requirements as set forth by the buyers and sellers in the market. Generally, any item that could be or would be normally repaired or refurbished has been corrected. There are generally no functional inadequacies of any consequence and all of the short-lived items are in like new condition.
Good	Minor deterioration visible in the building. It is more attractive and more desirable than the average building of its chronological age. Generally, all items are well maintained and many of them have been overhauled and repaired as they have shown signs of wear. There is very little deterioration or obsolescence evident and there is a high degree of functional utility in the parcel and in the structure.
Average	Normal wear and tear is apparent in the building. It has average attractiveness and desirability. There are typically minor repairs that are needed along with some refinishing. In this condition, most of the major components are still viable and are contributing to the overall utility and value of the property.
Fair	Marked deterioration is evident in the structure. It is rather unattractive or undesirable but still quite useful. This condition indicates that there are a substantial number of repairs that are needed. Many items need to be refurbished, overhauled, or improved. There is deferred maintenance that is obvious.
Poor	Definite deterioration is obvious in the structure. It is definitely undesirable or

	barely useable. Extensive repair and maintenance are needed on painted surfaces, the roof, and the plumbing and heating systems. There may be some functional inadequacies or substandard utilities. There is extensive deferred maintenance.
Very Poor	Conditions in the structure render it unusable. It is extremely unfit for human habitation or use. There is extremely limited market value in use and it is approaching abandonment. The structure needs major reconstruction to have any effective economic value.

Note: Instructions for determining the condition rating for a dwelling are provided in ***Appendix B***.

STEP 4 In the "Replacement Cost" cell, enter the replacement cost calculated for the dwelling (also entered in the "Replacement Cost" cell in Task 6, Step 4), rounded to the nearest $10.

STEP 5 In the "Total Depr." column, enter the percentage of reduction in value due to total depreciation. Information about determining total depreciation for a dwelling is provided in ***Appendix B***.

STEP 6 Determine the remainder value:

a. Subtract the percentage determined for total depreciation (entered in the "Total Depr." column) from 100%.

b. Divide the result obtained in Step 6(a) by 100 to arrive at a multiplier.

c. Calculate the remainder value by multiplying the replacement cost of the structure (entered in the "Replacement Cost" column) by the multiplier obtained in Step 6(b):

Remainder value = Replacement cost **x** Multiplier obtained in Step 6(b)

d. Enter the remainder value in the "Remainder Value" column, rounded to the nearest $10.

Example: The replacement cost of a dwelling is $80,000. The total depreciation percentage for the dwelling is 30%. The remainder value is: 100% – 30% = 70% ÷ 100 = .70 x $80,000 = $56,000.

STEP 7 If the improvement being valued is less than 100% complete on the assessment date, enter the percentage complete in the "% Comp" cell. Information on percentage completion can be found in ***Appendix C***.

STEP 8 Calculate the neighborhood factor and enter the result in the "Nhbd Factor" cell. Information on neighborhood factors can be found in ***Appendix B***.

STEP 9 The improvement value is the remainder value of the dwelling, adjusted for % complete and neighborhood factor (if necessary), rounded to the nearest $100. Enter this amount in the "Improvement Value" column on the property record card.

STEP 10 *If the property has a detached garage (secondary to an attached garage)*, *yard structures*, or *other improvements to describe*, follow the instructions in Chapter 5 to complete the "Summary of Non-Residential Improvements" section.

Note: If the property has a detached garage as it~~'~~s only garage it must be valued as a residential improvement in order to receive the homestead credit (if applicable).

If the property has no other improvements to describe, sum the entries in the "Improvement Value" column and enter the total in the "Total Residential Improvement Value" cell.

Solar Heating and Cooling Systems

This section describes identifying and valuing solar energy heating and cooling systems that are valued as real property improvements or as personal property mobile homes that are assessed on an annual basis. Any qualifying solar energy heating and cooling systems valued from the cost schedules in ***Appendix C*** of this book or ***Appendix G*** in Book 2 are eligible for an assessed valuation deduction as prescribed in IC 6-1.1-12-26. To qualify as a solar energy heating and cooling system, the system must contain a collection unit, a storage medium, and a distribution unit. A passive solar system **does not** quality as a solar energy heating or cooling system.

Solar Heating and Cooling System Definitions

The following definitions are associated with solar energy heating and cooling systems.

air system	A qualifying system that uses various gases as the transfer agent between the solar collection unit and the storage medium. Normally, this type of system uses pebbles and rocks as the storage medium.

c~~C~~ontrol devices	All switches and wiring necessary to operate the solar system.
depreciation date	~~March~~ January 1, 2019~~1~~
energy transfer equipment	The equipment that transfers thermal energy from the collection source to the storage medium.
insulated containment vessel	The apparatus that insulates the storage medium from its surroundings to limit the loss of energy.
liquid system	A qualifying system that uses a liquid as the transfer agent between the solar collector unit and the storage medium. Normally this type system uses a liquid storage tank as the storage medium.
passive solar system	A greenhouse type enclosure that does not meet the qualification standards of a collection unit, a storage medium, and a distribution unit.
solar collector	An assembly or structure designed to gather, concentrate, or absorb direct and indirect solar energy.
solar distribution unit	The portion of the solar unit that distributes the final product to its destination. Items normally associated with the solar distribution units are: ▪ ductwork ▪ fans ▪ heat exchangers ▪ pumps ▪ plumbing necessary to interconnect the solar system.
solar medium	The material in which energy is stored.

Solar Heating and Cooling System Types

Table 3-13 lists the types of solar heating and cooling systems.

Table 3-13. Solar Heating and Cooling Systems

This type	Indicates
Type A	A solar collection unit of thirty (30) square feet, a storage medium consisting of either a one hundred twenty (120) gallon tank for a liquid system or a storage vessel with a rock surface area of four hundred (400) square feet for an air system, and an elaborate contractor installed distribution unit that requires minimum occupant involvement on a day-to-day basis. This type of system virtually runs itself through the use of sophisticated monitoring equipment. This type of system is normally

	designed for and incorporated into the structure at the time of construction.
Type B	A solar collection unit of twenty-five (25) square feet, a storage medium consisting of either an eighty (80) gallon tank for a liquid system or a storage vessel with a rock surface area of three hundred (300) square feet for an air system, and a contractor installed distribution unit that requires limited occupant involvement in the day-to-day operation of the system.
Type C	A solar collection unit of twenty (20) square feet, a storage medium consisting of either a sixty (60) gallon tank for a liquid system or a storage vessel with a rock surface area of two hundred (200) square feet for an air system, and a contractor installed distribution unit that relies on the occupant to make internal adjustments within the system during the day-to-day operation of the system.
Type D	A homemade solar collection unit of less than twenty (20) square feet and a storage medium of either a forty (40) gallon tank for a liquid system or a storage vessel with a rock surface area of two hundred (200) square feet or less for an air system. The Type D system uses the structure's existing base heating and cooling system as the distribution unit for the system. The Type D distribution unit's cost included in the cost schedules reflect the additional cost incurred to hook-up the solar portion of the system to the base heating system included in the structure's calculation of replacement cost.

Collecting Data for Solar Systems

The solar heating and cooling system cost schedules contain rates for a collection unit, a distribution unit, and a storage medium. The general reassessment has identified the structures that contain a solar heating and cooling system. The solar cost schedules in ***Appendix C*** pertain to the pricing of a solar system that is separate from the base heating system. It is important to remember that structures containing a base or reserve heating system and a separate solar system must be charged for both systems. A solar heating and cooling system that uses the distribution unit of an existing base heating system is charged for only those components that are necessary to make the system a solar system.

A qualifying solar heating and cooling system must have a collection unit, a storage medium, and a distribution unit. The basic principle of a solar system is to collect the sun's energy as heat, transfer this heat to a specific medium for storage, and disperse the heat throughout a structure at a future time for the comfort of the occupants. There are two basic types of solar systems:

- A **liquid solar system** uses liquid as the transfer agent between the various components of the system. The solar collection unit, normally located on the roof of the structure, is connected to the remainder of the system by a series of pipes. The liquid contained within the system is pumped through the collection unit where heat collected from the sun's rays is transferred to the liquid. This heated liquid is periodically pumped to the storage medium—an insulated storage tank in a liquid system. As the liquid is pumped through a heat exchanger, which removes heat from the liquid, the heat is transferred to air or water for distribution throughout the structure.
- An **air system** operates in a similar manner to a liquid system but the transfer agent is warm air and the storage medium is pebbles or rocks. Through the use of a system of pipes, air is blown through the collection unit where heat is transferred to the air. The heated air is blown through a series of pipes to the storage vessel that contains pebbles or rocks. Heat, transferred to the rocks from the circulated air, is stored within the rocks for future use. This heat is then transferred to either air or water by a series of pipes for distribution throughout the structure.

Collecting Data for Residential Solar Energy Systems

The cost schedules for residential solar systems in ***Appendix C*** contain base rates for an independent system and the component costs that make up the independent system. The schedules are arranged to value the system either as a system type or to value the various components when identified by the type of components. When collecting data for a solar heating and cooling system, you must select a valuation method and record the method in the "Summary of Improvements" section of the property record card:

- *If the solar system is being valued on a **system basis***, record the system type in the "Use" column and the type of storage medium in the "Construction" column.
- *If the solar system is being valued on an **individual component basis***, record each type of collection unit, distribution unit, and the type of storage medium, including the variables of either liquid or rock, as separate line entries within the section.

Collecting Data for Commercial Solar Energy Systems

For commercial solar energy systems, the principle factor necessary in data collection is the total surface square foot area of the system's collection unit. The applicable square foot rate includes all equipment associated with the system. To identify the system in the "Summary of Improvements" section of the Commercial and Industrial property record card, you must record "Com. solar system" in the "Use" column and the total square foot area of the collection unit in the "Size" column.

Pricing Solar Systems

Pricing of Residential Solar Systems

A residential solar system or the individual components of a residential solar system must be valued as real property in the “Summary of Improvements” section of the Property Record Card’s “Summary of Improvement” section:

- *If the pricing is on a* ***system basis***, record only the type of system as an individual line entry. For example, record “Type A solar system” in the “Use” column, the codes, “Liq” or “Roc” in the “Construction Type” column, and the corresponding base rate for the type of system identified in the “Base Rate” column. Then multiply the “Base Rate” times the location multiplier and enter the result in the “Adjusted Rate”, and “Replacement Cost” columns.
- *If the pricing is on a* ***component basis***, record each type of component as an individual line entry. For example, to record the system components:
  - In the first available row in the “Summary of Improvements” section, record “Type B collector” in the “Use” column with the corresponding component rate appearing in the “Base Rate” column. Then multiply the “Base Rate” times the location multiplier and enter the result in the “Adjusted Rate”, and “Replacement Cost” columns.
  - In the next row, record “Type C storage medium” in the “Use” column, the codes “Liq” or “Roc” in the “Construction Type” column, and the corresponding rates in the “Base Rate” column. Then multiply the “Base Rate” times the location multiplier and enter the result in the “Adjusted Rate”, and “Replacement Cost” columns.
  - In the next row, record “Type C distribution unit” in the “Use” column and the corresponding component rate in the “Base Rate”. Then multiply the “Base Rate” times the location multiplier and enter the result in the “Adjusted Rate”, and “Replacement Cost” columns.

Pricing Commercial Solar Systems

To calculate the value of a commercial solar system, identify the total square footage of the system’s collection unit and multiply that square footage by the applicable base rate (adjusted for location) identified in the cost schedule in ***Appendix G***. Select the rate that is closest to the subject’s square footage. Do not interpolate between rates.

Depreciating Solar Systems

Depreciating Residential Solar Systems

Use the Residential Dwelling Depreciation Table for the appropriate grade found in ***Appendix B*** to adjust the replacement cost of a residential solar system. These depreciation tables are based on age and condition. The age of the system will be unique for each separate system.

- Age is determined by finding the difference between the year of construction of the solar system and the depreciation date, defined earlier in this section.
- Condition is the same as the dwelling that it serves.

Depreciating Commercial Solar Systems

Use ***Chart 3*** found in ***Appendix F*** to adjust the replacement cost of a commercial solar system. This table combines the variables of age and condition to arrive at the normal depreciation percentage for the system. The condition ratings and age variables of the system are judged in the same manner as for a residential system.

Geothermal Heating and Cooling Systems

This section provides instructions for identifying and valuing geothermal heating and cooling systems that are valued as real property improvements. Any qualifying geothermal heating and cooling system valued from ***Appendix C*** in this book and ***Appendix G*** in Book 2 is eligible for an assessed valuation deduction as prescribed in IC 6-1.1-12-34. To qualify for a deduction under IC- 6-1.1-12-34, a geothermal heating and cooling device must be certified by the Indiana Department of Environmental Management as prescribed in IC 6-1.1-12-35.5.

Geothermal Heating and Cooling System Definitions

The following definitions are associated with geothermal systems.

closed loop system	A geothermal heat pump system that uses a continuous sealed loop of buried plastic pipe as the heat exchanger. Loops can be buried horizontally or vertically.
geothermal heat pump	An electrically powered device that uses the natural heat storage ability of the earth or the earth's ground water to heat or cool a structure.
geothermal heating and cooling device	A device that was installed after December 31, 1981 and designed to use the natural heat cooling device from the earth to provide hot water, produce electricity, or generate heating and cooling.
heat exchanger	A device designed to transfer heat between two (2) physically separated fluids or mediums of different temperatures.
liquid medium	Ground water or an acceptable antifreeze solution.

open loop system	A geothermal heat pump system that uses ground water from a conventional water well as the heat source for the system. The water is returned to the environment as either open discharge or a return well.

Geothermal Heating and Cooling System Types

The geothermal heating and cooling system cost schedules contain rates for both closed loop and open loop geothermal systems:

- **"Closed loop"** system is a geothermal heating and cooling system that uses a continuous loop of special pipe that is buried in the ground or sunken into a pond or river. This pipe, that contains a liquid medium of a pressurized antifreeze solution, is connected to the indoor geothermal heat pump to form a sealed, underground loop. The antifreeze solution is circulated throughout the loop where low temperature heat is transferred from the ground or water to the antifreeze solution. This low temperature heat is used by the geothermal heat pump- to warm the refrigerant within the unit. The two (2) variations of a closed loop system are:
  - **Horizontal** loop systems consist of a series of trenches that are dug throughout the land surrounding the structure. These trenches are normally four (4) to six (6) feet deep and up to four hundred (400) feet long, depending upon how many pipes are located within the trench. The normal placement of pipe within the trench is to install a run of pipe at the five (5) foot level and cover it up with dirt. At the three (3) foot level of the trench, a second run of pipe is looped back over the first run and another layer of soil is added to fill-in the trench. This overlapping method allows more length of pipe to be used per linear foot of excavated trench. As a general rule for horizontal loop systems, it requires approximately five hundred (500) to six hundred (600) linear feet of underground piping to service one (1) ton of system capacity.
  - **"Vertical"** loop systems are similar to horizontal loop systems except that the loop is installed downward instead of horizontally throughout the yard. In a vertical loop, holes are bored into the ground and U-shaped loops of pipes are inserted into the holes. After the installation of the system is complete, the created holes are backfilled with a sealing solution. As a general rule for vertical loop systems, it requires approximately one hundred twenty five (125) to one hundred fifty (150) linear feet of underground piping to service one (1) ton of system capacity.
- **Open loop** system is a geothermal heating and cooling system that uses ground water from a conventional well as the heat source for the system. The water is pumped into the geothermal heat pump unit where heat is extracted. The extracted heat is used by the heat exchanger to warm the refrigerant with the unit. This extracted heat is used by the heat exchanger to warm the refrigerant

within the unit. After the water has passed through the geothermal heat pump unit, it is discharged in one (1) of the following ways:

— The **open discharge system** simply involves releasing the water into a river, stream, pond, ditch, or drainage tile.

— The **return well system** involves the drilling of a second well that is used to return the ground water to the ground aquifer.

Many geothermal heat pump units are equipped with an internal auxiliary electric heat plant to ensure that the heat is sufficient during periods of repair or extremely cold weather. The unit is designed as an integral part of a geothermal heating and cooling system, and the presence of this small auxiliary heat plant within the geothermal heat pump unit does not alter the qualifications for a deduction as a geothermal heating and cooling device.

Certain types of geothermal heat pump units are installed in conjunction with existing fossil fuel furnaces located within a structure. These types of configurations are commonly referred to as split systems. The geothermal heat pump unit uses the existing furnace's distribution system to distribute hot and cold air throughout the structure. The geothermal portion of a split system may qualify for the geothermal deduction under IC 6-1.1-12-34. However, the structure's base furnace and its distribution system shall be valued and assessed as part of the real property assessment. The "no heat" adjustment for geothermal heating described in Chapter 3 does not apply for a split system. If a split system exists in a particular structure, the applicable rates to value the geothermal portion of the system are taken from the cost schedules labeled "without distribution system".

Collecting Data for Geothermal Systems

The technology associated with a geothermal heating and cooling system is based on the same principles as a standard air heat pump furnace. Both types of systems rely on a process of elevating the low temperature heat acquired from the environment and transferring it indoors through a cycle of evaporation, compression, condensation, and expansion of a refrigerant gas contained within the heat pump unit.

The geothermal heating cycle begins as a cold, liquid refrigerant that passes through the heat exchanger and absorbs heat from the low temperature liquid medium. The refrigerant evaporates into a gas as heat is absorbed, and the gaseous refrigerant passes through a compressor that pressurizes it.

Pressurization of the refrigerant raises its temperature in excess of one hundred eighty (180) degrees and the hot gas is circulated through a refrigerant-to-air heat exchanger where the heat is removed and pumped into the structure. As a result of this interaction, the gas begins to cool which causes it to liquefy and the heating cycle begins again. The cooling cycle is the reverse of the heating cycle where the structure's heat is transferred to the liquid medium and the cold refrigerant passes through the refrigerant-to-air exchanger that provides cool air.

Data Collections Codes for Geothermal Systems

Table 3-14. Data Collection Codes for Geothermal Systems

This code	Indicates
HCLSWD	A horizontal closed loop system with a distribution system.
HCLSWOD	A horizontal closed loop system without a distribution system.
VCLSWD	A vertical closed loop system with a distribution system.
VCLSWOD	A vertical closed loop system without a distribution system.
ODOLSWD	An open discharge open loop system with a distribution system.
ODOLSWOD	An open discharge open loop system without a distribution system.
RWOLSWD	A return well open loop system with a distribution system.
RWOLSWOD	A return well open loop system without a distribution system.

Tonnage Ratings for Geothermal Systems

In addition to collecting data about the type of geothermal system installed in a particular structure, the assessor also must collect data about the rated tonnage of the system.

Tonnage is the accepted measure for size used throughout the heating and cooling industry. The specific tonnage rating of a system indicates the system is capable of efficiently heating and cooling a certain amount of square foot area. The larger the amount of square footage to be heated and cooled in a structure dictates a larger tonnage amount required for the system.

As a general guideline, one (1) ton of geothermal heating and cooling is needed to service approximately six hundred (600) to seven hundred (700) square feet of structure. This general guideline is dependent on the individual structure, and it~~'~~s history of measured heat loss and gain before the installation of the geothermal system. The cost schedules in ***Appendix C*** include the following tonnage ratings:

- two (2) tons
- two and five-tenths (2.5) tons
- three tons (3)
- three and five-tenths (3.5) tons
- four (4) tons
- five (5) tons
- six (6) tons

Structures w~~W~~ith Two or More Geothermal Systems

In certain instances, a structure could contain two (2) or more separate geothermal heating and cooling systems. This normally occurs when a structure contains a very large amount of square footage or there is a limited amount of yard area to support a complex closed loop geothermal system. The data collection procedures are as follows:

- If a structure contains two (2) or more separate geothermal heating and cooling systems and shares the same distribution system throughout the structure, record the largest rated tonnage system as having the distribution system and the remaining system or systems as having no distribution system.

  Example: A structure has two (2) separate horizontal closed loop geothermal systems. The first system is rated at four (4) tons and the second is rated at two (2) tons. When collecting data, the assessor must list the four (4) ton system as a horizontal closed loop system with distribution, "HCLSWD", and the second system as a horizontal closed loop system without distribution, "HCLSWOD".

- For structures that contain two (2) or more separate geothermal heating and cooling systems with their own distribution systems, list both systems separately as having distribution systems.

  Example: There are two (2) separate horizontal closed loop systems. Both systems are rated at three (3) tons. The assessor must list both systems separately as a horizontal closed loop system with distribution, "HCLSWD".

Note: Data for geothermal heating and cooling systems used in commercial structures must be collected and priced in the same manner as comparable residential systems.

Pricing Geothermal Systems

The cost schedules for pricing geothermal heating and cooling systems in ***Appendix C*** are formatted by type of system, tonnage rating of the system, and whether the system maintains a separate distribution system.

The correct system pricing is obtained by selecting the geothermal system type as either horizontal closed loop, vertical closed loop, open discharge open loop, or return well open loop, selecting the system's rated tonnage size, and selecting the appropriate base rate (adjusted for location) from either the "w/ distribution" column or the "w/o distribution" column.

Depreciating Geothermal Systems

Depreciating Residential Geothermal Systems

Use the Residential Dwelling Depreciation Table for the appropriate grade found in ***Appendix B*** to adjust the replacement cost of geothermal heating and cooling systems. These depreciation tables rely on the variables of age and condition.

The age of the system will be unique for each separate system.

- Age is determined by finding the difference between the year of construction of the geothermal system and the depreciation date as defined earlier in this section.
- Condition is the same as the dwelling it serves.

Depreciating Commercial Geothermal Systems

Use ***Chart 3*** found in ***Appendix F*** to adjust the replacement cost of a commercial geothermal heating and cooling system. This table combines age and condition to determine the normal depreciation percentage for the system. The condition ratings and age variables of the system are determined in the same manner as for general geothermal heating and cooling systems, described earlier.

Overview

This chapter provides the guidelines for establishing the valuation of real property mobile and manufactured homes. To qualify as real property under these guidelines, a mobile or manufactured home must be one of the following:

- attached to a permanent foundation; or~~,~~
- the owner of the home has surrendered the certificate of title under the provisions of I~~.~~C ~~.~~9-17-6-15.1.

Mobile or manufactured homes valued as real property are to be valued using the directions and procedures outlined in Chapter 3 of these Guidelines.

For definitional purposes a permanent foundation means a permanently affixed structural system capable of transposing loads from a structure to the earth at a depth below the established frost line.

Contents

Tables

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This chapter provides the guidelines for establishing the true tax value of residential yard and agricultural yard structures. This chapter includes guidelines for collecting and recording the physical characteristics of each type of yard structure, the procedures necessary to calculate the replacement cost of each yard structure, and the procedures necessary to calculate the true tax value of each yard structure.

Step-by-step instructions indicate how to enter information about residential and agricultural yard structures in the "Summary of Non-Residential Improvements" section of the property record card. The necessary depreciation tables and cost schedules are provided in ***Appendix B*** and ***Appendix C***.

Residential yard structures include:

- utility sheds
- greenhouses
- tennis courts
- stables
- boat houses
- gazebos
- car sheds
- bath houses
- detached garages
- exterior features valued as yard items
- geothermal heating and cooling systems
- solar heating and cooling systems
- in-ground swimming pools
- above-ground swimming pools
- swimming pool enclosures

Agricultural yard structures include:

- dairy barns
- feed lots
- silos
- steel grain bins
- granaries
- milk houses
- milking parlors
- tobacco barns
- quonset buildings
- wire corn cribs
- slurry tanks
- lean-tos
- veal confinement facilities
- trench and bunker silos
- bank and flat barns
- chicken, duck, and turkey barns
- hog confinement facilities
- poultry confinement facilities
- poultry houses, non-confinement
- frame corn cribs, free-standing type
- frame corn cribs, drive-through type
- potato storage buildings
- butler low-moisture silage silos
- general purpose pole-framed barns and machine sheds

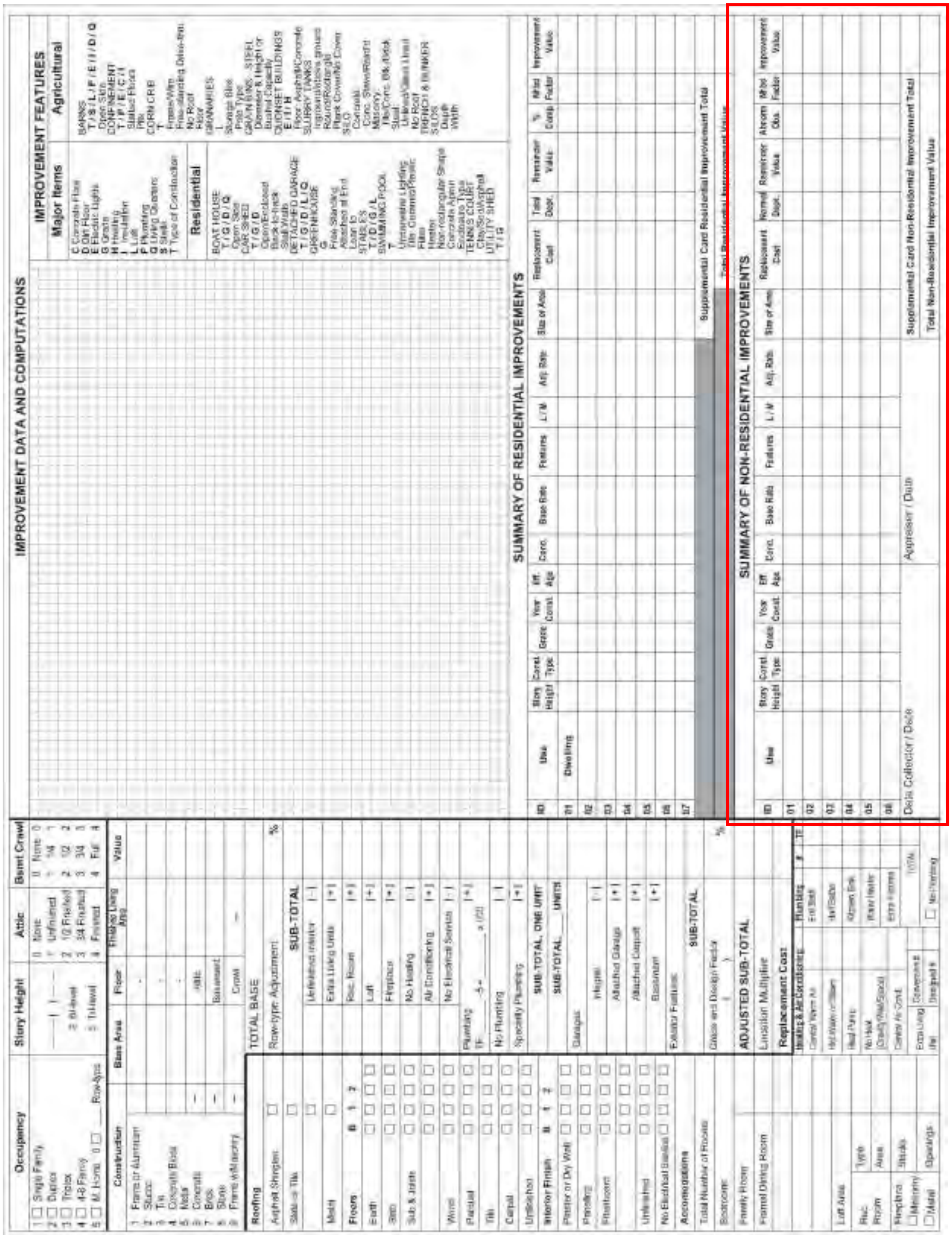
Completing a Property Record Card

The valuation of residential and agricultural yard structures is recorded in the "Summary of Non-Residential Improvements" section of the property record card, shown in ***Figure 5-1***. Space is provided in the table to itemize each structure. Each row corresponds to one particular structure. The improvement value of all of the structures is totaled at the bottom of the table.

Note: If the property has more structures than there are rows in this section of the property record card, use an additional card (or cards) to describe those structures.

The steps for completing the property record card for residential and agricultural yard structures are grouped into the following tasks, described in the sections below:

- **Task 1**—Record information about the structure.
- **Task 2**—Determine the base rate for the structure.
- **Task 3**—Determine the adjusted base rate and replacement cost for the structure.
- **Task 4**—Calculate the remainder value of the structure.
- **Task 5**—Calculate the improvement value of the structure.
- **Task 6**—After performing Task 1 through Task 5 for each structure on the property, calculate the total non-residential improvement value for the property.



IMPROVEMENT DATA AND COMPUTATIONS

IMPROVEMENT FEATURES

SUMMARY OF RESIDENTIAL IMPROVEMENTS

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

Figure 5-1. Summary of Non-Residential Improvements Section

Task 1—Recording Information

In this task, you provide descriptive information about the characteristics of the structure. The shading in ***Figure 5-2*** indicates the columns of the “Summary of Non-Residential Improvements” table that you complete in this task.

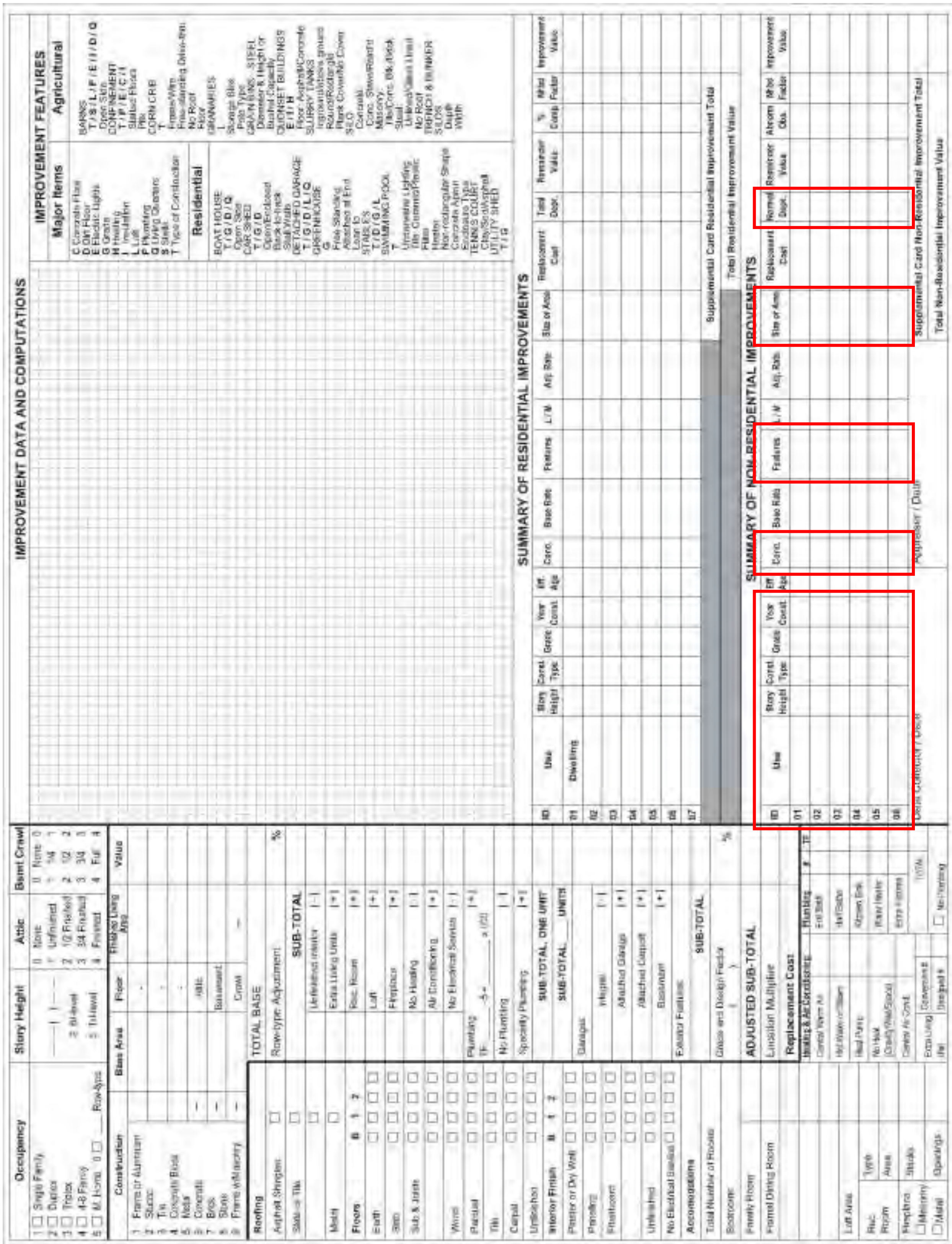


Figure 5-2. Columns Completed in Task 1

To record information about the structure, perform these steps:

STEP 1 In the "ID" column, select an identification number for the structure. Record the information about the structure in the row corresponding to this identification number. Also, use this number to identify the location of the individual structure relative to the dwelling or other structures in the sketch area.

Note: It is ***not*** necessary to sketch the structure to scale or to show the dimensions of the structure in the sketch area.

STEP 2 In the "Use" column, enter the predominant use of the structure

STEP 3 In the "Story Height" column, enter the height of the structure in feet, measured from the top of the floor to the eaves.

STEP 4 In the "Const. Type" column, enter the type of exterior wall construction used for the structure. The exterior wall construction options are:

- Frame or aluminum (Fr)
- Stucco (Stco)
- Tile (Tile)
- Concrete block (CB)
- Metal (Mtl)
- Concrete (Conc)
- Brick (Br)
- Stone (Stn).

STEP 5 In the "Grade" column, enter the grade for the structure. ~~Inforrmation~~Information about determining the grade for a structure is provided in ***Appendix A***.

STEP 6 In the "Year Const." column, indicate when the structure was originally constructed. Follow these guidelines:

- If you are sure of the date, enter just the date, for example "1990".
- If you (the assessing official) must estimate the date, enter the date followed by a question mark, for example "1985?".
- If the owner estimates the date, enter the date followed by "+/–", for example "1985+/–".
- Enter "Old" to indicate construction prior to:
  - — 1938 if the structure is depreciated from the 40 year life expectancy table
  - — 1953 if the structure is depreciated from the 30 year life expectancy table
  - — 1969 if the structure is depreciated from the 20 year life expectancy table

— 1974 if the structure is depreciated from the in-ground swimming pool depreciation table

— 1989 if the structure is depreciated from the above-ground swimming pool depreciation table.

STEP 7 *Swimming pools only. If the pool shows excessive physical deterioration for its age and you have subtracted six (6) years from its construction year, you must enter the new year in the "Eff. Age"* column. This is explained in the section ***Using the Swimming Pools Depreciation Tables*** in ***Appendix B***.

If the effective age of the pool is the same as the actual age, leave this column blank.

STEP 8 In the "Cond." column, enter the code indicating the assigned condition of the structure. ***Table 5-1*** describes the codes for this column.

Table 5-1. Condition Ratings for Yard Improvements

Classification	Indicated Depreciation
Excellent	The structure is in like-new physical condition and has been well maintained. It has been modernized and updated and suffers from no inutilities.
Good	The structure has been maintained in better physical condition than the majority of structures of its age and suffers from no deferred maintenance. It offers more amenities and has better utility than the majority of the structures of its design.
Average	The structure has been maintained like and is in the typical physical condition of the majority of structures of its age. It offers the same utility as the majority of the structures of its design.
Fair	The structure suffers from minor deferred maintenance and demonstrates less physical maintenance than the majority of structures of its age. It suffers from minor inutilities in that it lacks an amenity that the majority of structures of its design offer.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its design offer. However, it is still being put to some use in the farming operation.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is near the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer. Poor location for the type of structure.

Note: Instructions for determining the condition rating for a structure are provided in ***Appendix B***.

STEP 9 In the “Features” column, enter the abbreviations for any features that alter the base rate for the structure. For a list of features for each type of structure, refer to the section “Improvement Features” on the property record card, shown in ***Figure 5-3***.

STEP 10 In the “L/M” column, enter the location multiplier for your county, which can be found in ***Table C-1*** in ***Appendix C***.

STEP 11 In the “Size or Area” column, enter the size or area of the structure. “Size” refers to the dimensions of the structure, such as length and width, or diameter and height. “Area” refers to the square foot ground area of the structure.

To determine whether to enter the size (and if size is used, exactly which dimensions) or the area of the structure, refer to the cost schedule for the structure type. Measure the dimensions and use the same units of measurement as the appropriate cost schedule uses.

STEP 12 In the “Normal Depr.” column, enter the total depreciation from the appropriate depreciation table. Information about evaluating depreciation is provided in ***Appendix B***.

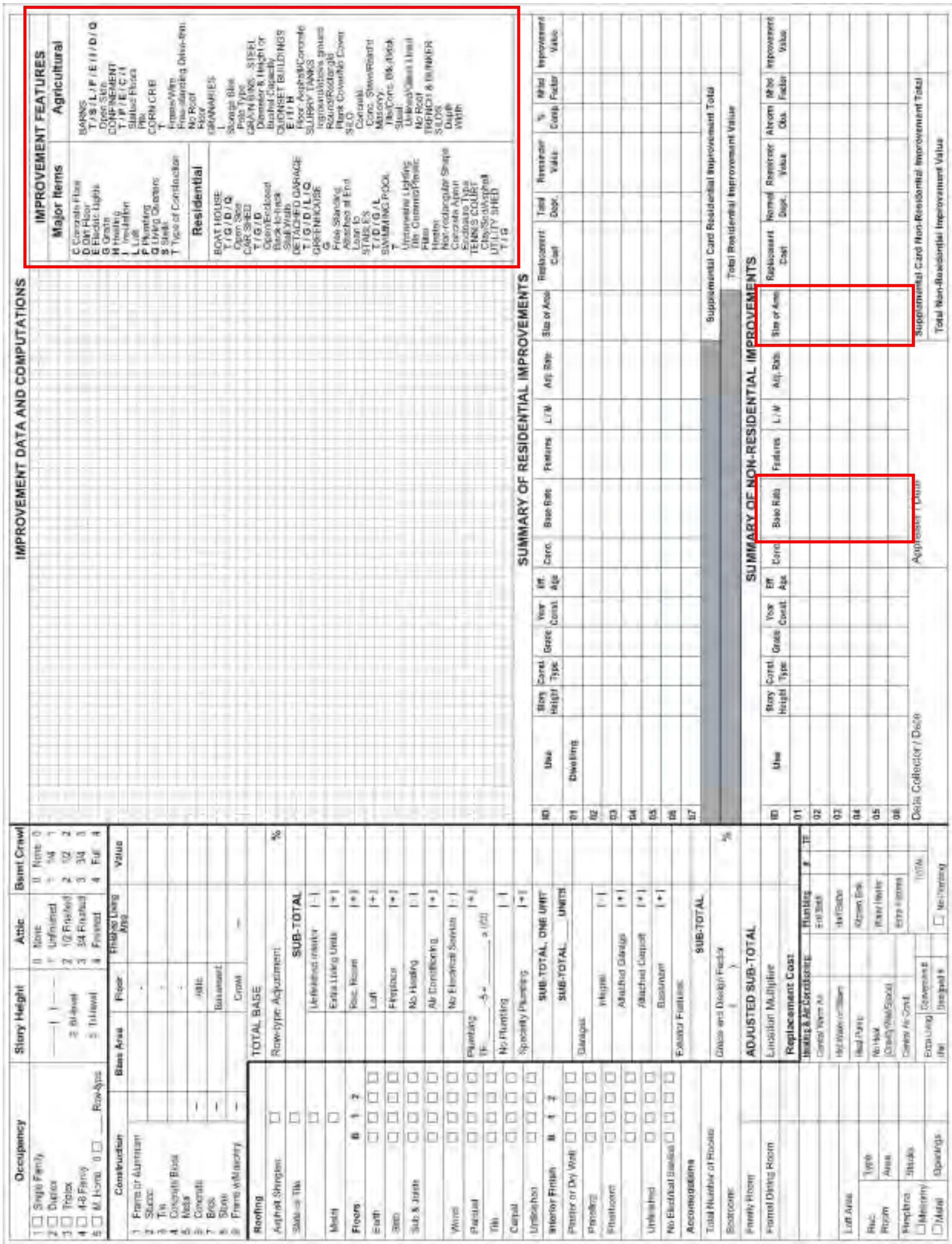


Figure 5-3. Improvement Features

Task 2—Determining the Base Rate

You determine the base rate of the structure using the cost schedule for the appropriate type of structure. The cost schedules for residential and agricultural yard structures are provided in ***Appendix C***.

The cost schedules provide either whole dollar or square foot unit values. The schedules are based on a "C" grade unless otherwise specified. Each schedule includes base rates for the typical range of size or configuration for the type of structure.

The rates given, unless otherwise specified, apply to detached, free standing structures. **For attached structures, not identified as such in the pricing schedules, apply the following multipliers to the price derived from the pricing schedules:**

(1) If one (1) end or the shortest length is attached, multiply by ninety-hundredths (.90).

(2) If one (1) side or the longest length is attached, multiply by eighty-hundredths (.80).

The shading in ***Figure 5-4*** indicates the columns of the "Summary of Non-Residential Improvements" table that you complete when determining the base rate for a structure.

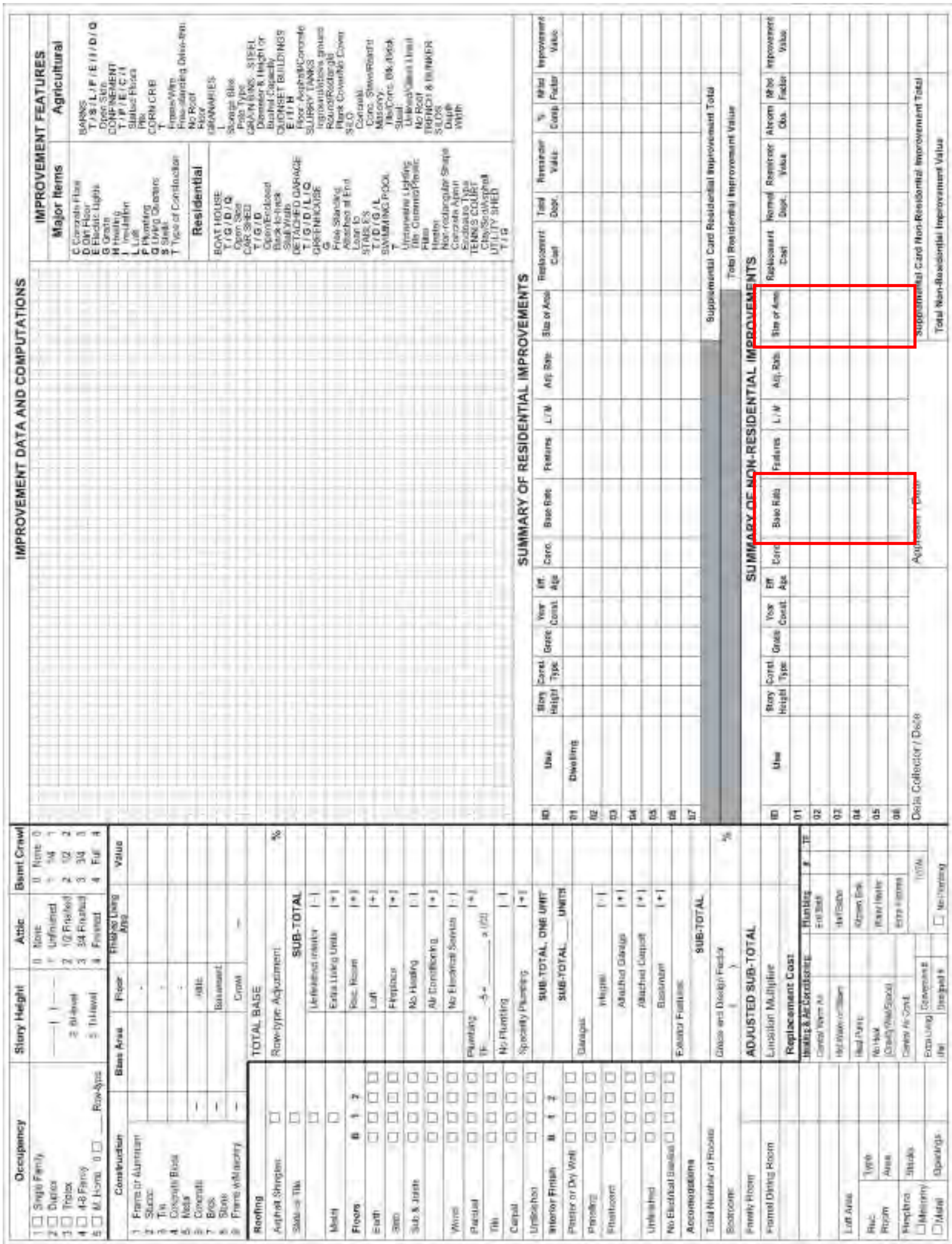


Figure 5-4. Columns Completed in Task 2

Using Area (Square Footage)

To determine the base rate for a structure that uses a schedule based on ***area (square footage)***, perform these steps:

STEP 1 Based on the type of structure, locate the appropriate cost schedule.

STEP 2 In the “Area” column of the cost schedule, locate the row corresponding to the square footage of the structure (entered in the “Size and Area” column in the “Summary of Non-Residential Improvements” section).

If the structure is any type other than a general purpose pole barn, use the area in the cost schedule that is closest to the actual square footage of the structure. There is no need to interpolate between these rates.

If the structure is a general purpose pole barn, perform the interpolation procedure described in the cost schedule and shown in Example 2, below. The interpolation procedure calculates a value for a pole barn that has measurements different than those listed in the schedule. The first number in the size column represents the width of the structure and the second number represents the length. A size deviation in a building should be compared against the width column of the schedule first.

The procedure below applies when selecting the next smallest and next largest structure from the cost schedule:

- *If the width of the subject building exactly matches the width in the size column*, the interpolation of the rates is between the lengths only. For example, a subject building measuring 50′ x 150′ uses the 50′ x 140′ building and the 50′ x 160′ building in the interpolation process.
- *If the width of the subject does not exactly match the width in the size column and the lengths do match*, the interpolation of the rates is between the widths only. For example, a subject building measuring 48′ x 100′ uses the 40′ x 100′ building and the 50′ x 100′ building in the interpolation process.
- *If the width and length of the subject building does not exactly match the sizes listed in the cost schedule*, the interpolation of the rates begins with the width first, then the length. A subject building measuring 75′ x 150′ uses the 60′ x 140′ building and the 80′ x 160′ building in the interpolation process. The first comparison in this example is the width since 75′ is above 60′ and below 80′. The second qualifier is the 140′ length and the 160′ length which is the range when analyzing the 150′ length.
- *If the area of the structure is larger than the largest area or smaller than the smallest area provided in the cost schedule*, extrapolate to calculate the amount to add to, or subtract from, the base rate. When extrapolating, perform the following calculations:

a. *For an area larger than the square footage listed on the schedule*, calculate the difference between the rate of the largest square footage and the rate of the next highest square footage. Subtract this difference from the rate of the largest square footage to arrive at the appropriate rate for the subject building.

b. *For an area smaller than the square footage listed on the schedule*, calculate the difference between the rate of the smallest square footage and the rate of the next smallest square footage. Add this difference to the rate of the smallest square footage to arrive at the appropriate rate for the subject building.

STEP 3 Find the intersection of the selected row (area in square feet) and the appropriate column. In the "Base Rate" column in the "Summary of Non-Residential Improvements" section, enter the number that you find (or interpolate or extrapolate).

Note: The column headings vary in the cost schedules. Often there are separate columns for different types of construction.

Example 1: The following example illustrates the procedure of determining the base square foot rate for a detached frame garage which measures 20' x 24'.

a. Calculate the area to be 480 square feet (20 x 24 = 480 square feet)

b. In the detached garage schedule, find the area closest to 480 square feet.

c. In the row for 500 square feet, follow across to the right to the column labeled frame.

d. Record the base rate from the cost tables in ***Appendix C*** in the base rate column of the "Summary of Non-Residential Improvements" section.

Example 2: The following detailed example illustrates the interpolation procedure using a 14′ high general purpose pole building with the dimensions of 75′ by 150′.

a. Select the model width(s) and length(s) closest to the subject building (60′ x 140′ and 80′ x 160′).

b. Select (or calculate) the square foot rate applicable for each of the two areas immediately smaller and larger than the subject building.

Any height adjustment to the subject building above 14′ or below 14′ must be attributed to the smallest size and largest size when calculating the rate in Step b.

c. Calculate the difference in the whole dollar value applicable to each of the areas selected in Step b.

d. Divide the result from Step c by the difference in the areas used in Step b.

e. Apply the rate from Step d to the difference in the area of the subject building and the smaller area of the two used in Step b.

f. Add the result from Step e to the whole dollar value calculated for the smaller area in Step c and round to the nearest $10 to arrive at the value of the 75′ x 150′ building.

Using Whole Dollar Amounts

To determine the base rate for a structure that uses a schedule based on ***whole dollar amounts***, perform these steps:

STEP 1 Based on the type of structure, locate the appropriate cost schedule.

STEP 2 In the "Size" column of the cost schedule, locate the row corresponding to the size of the structure, which you entered in the "Size and Area" column in the "Summary of Non-Residential Improvements" section. Use the area in the cost schedule that is closest to the actual size of the structure.

Note: *If the size of the structure is larger than the largest size or smaller than the smallest size provided in the cost schedule*, extrapolate to calculate the amount to add to, or subtract from, the base rate. When extrapolating, go to the column that best represents the size of the subject building and perform the following calculations:

a. For sizes smaller than those listed in the cost schedule, calculate the difference between the two smallest sizes listed in the schedule and subtract the difference from the smallest size in the schedule.

b. For sizes larger than those listed in the cost schedules, calculate the difference between the two largest sizes listed in the schedule and add the difference to the largest size in the schedule.

STEP 3 Find the intersection of the selected row and the appropriate column. In the "Base Rate" column in the "Summary of Non-Residential Improvements" section, enter the number that you find (or extrapolate).

Example 1: The following example illustrates the procedure of determining the whole dollar base rate for an 18′ diameter above ground pool:

a. In the diameter column, find the diameter closest to 18′.

b. In the 18′ diameter row, locate the base rate.

c. Record the rate from Step b in the base rate column of the "Summary of Non-Residential Improvements" section.

Example 2: The following example illustrates the extrapolation procedure for finding the base rate for a steel grain bin that measures 30′ x 55′ 0".

a. Find the size and base rate for the closest 30′ steel bin. This is 30′ x 47′8″.

b. Find the size and base rate for the next closest 30′ steel bin. This is 30′ x 40′4″.

c. Find the difference between the rates found in Step a and Step b

d. Add the difference calculated in Step c to the largest 30′ bin rate in Step a

e. The result is the base rate for a 30′ x 55′0″ steel bin. Record this base rate in the base rate cell in the "Summary of Non-Residential Improvements" section.

Task 3—Determining the Adjusted Base Rate and Replacement Cost

The adjusted base rate for the structure is the base rate, adjusted to take into account any relevant features identified for the structure, an adjustment for location (by applying the location cost multiplier), and the grade factor percentage. *If the structure uses a cost schedule based on area (square footage)*, the replacement cost for the structure is the structure's area multiplied by the adjusted base rate (per square foot). If the structure uses a cost schedule based on whole dollar amounts, the replacement cost is the same as the adjusted base rate.

The shading in ***Figure 5-5*** indicates the columns of the "Summary of Non-Residential Improvements" section that you complete when determining the adjusted base rate and replacement cost of the structure.

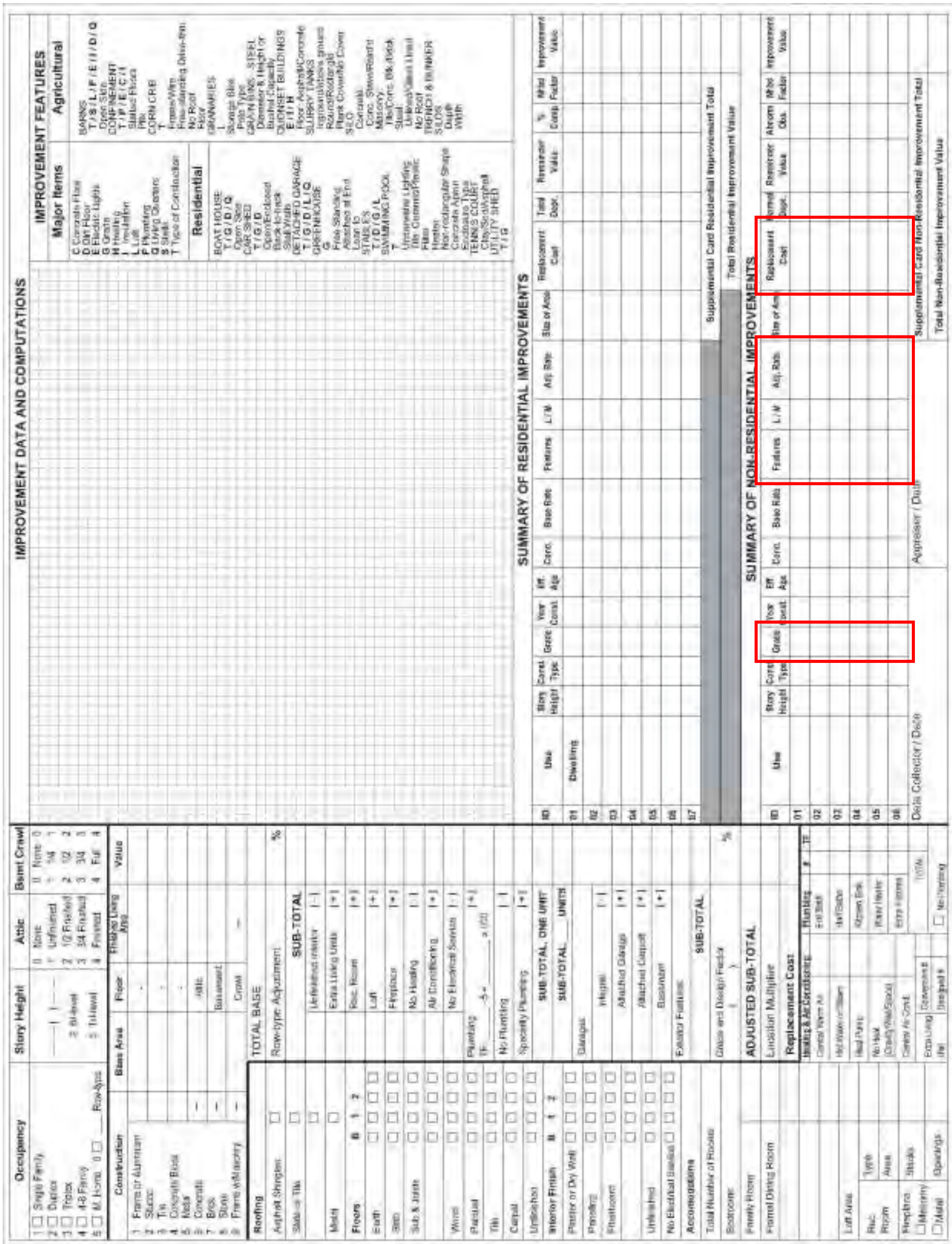


Figure 5-5. Columns Completed in Task 3

To determine the adjusted base rate and replacement cost for the structure, perform these steps:

STEP 1 Compare the features that you entered in the "Features" column in the "Summary of Non-Residential Improvements" section with the features in the cost schedule for the structure. If the cost schedule indicates that the base rate should be adjusted because of one or more of the features, adjust the base rate accordingly.

STEP 2 Determine and enter the location cost multiplier established for your county in the "L/M" cell. The table containing the location cost multipliers can be found in ***Appendix C***.

STEP 3 Divide the grade factor percentage corresponding to the grade entered in the "Grade" column in the "Summary of Non-Residential Improvements" section by 100 to arrive at a multiplier. Instructions for determining the grade factor percentage for a structure are provided in the section ***Assigning Grades to Residential and Agricultural Yard Structures*** in ***Appendix A***.

STEP 4 Calculate the adjusted base rate by multiplying the base rate (adjusted for any features) by the multiplier obtained in Step 2 and then by the multiplier in ~~step~~ Step 3:

Adjusted base rate	=	Base rate adjusted for features	**x**	Multiplier obtained in Step 2	**x**	Multiplier obtained in Step 3

Enter the adjusted base rate in the "Adj. Rate" column.

STEP 5 *If the structure uses a schedule based on area (square footage)*, calculate the replacement cost by multiplying the adjusted base rate (entered in the "Adj. Rate" column) by the structure's square footage (entered in the "Size or Area" column):

Replacement cost	=	Adjusted base rate	**x**	Area (square footage)

Round the replacement cost to the nearest $10 and enter it in the "Replacement Cost" column.

If the structure uses a schedule based on whole dollar amounts, round the adjusted base rate (entered in the "Adj. Rate" column) to the nearest $10 and enter it in the "Replacement Cost" column.

Example: The procedures for calculating the adjusted base rate and the replacement cost of a 20′ x 24′ detached frame garage with a quality rating of D is as follows:

a. Find the base rate for a 480 square foot detached frame garage of average quality in the cost tables in ***Appendix C***.

b. The adjusted rate for the garage is the product of the base rate times the location cost multiplier (i.e. 1.00), times the D grade multiplier of .80.

Base Rate **x** 1.00 **x** D grade multiplier of .80

~~Base rate X 1.00 X D grade multiplier of .80~~

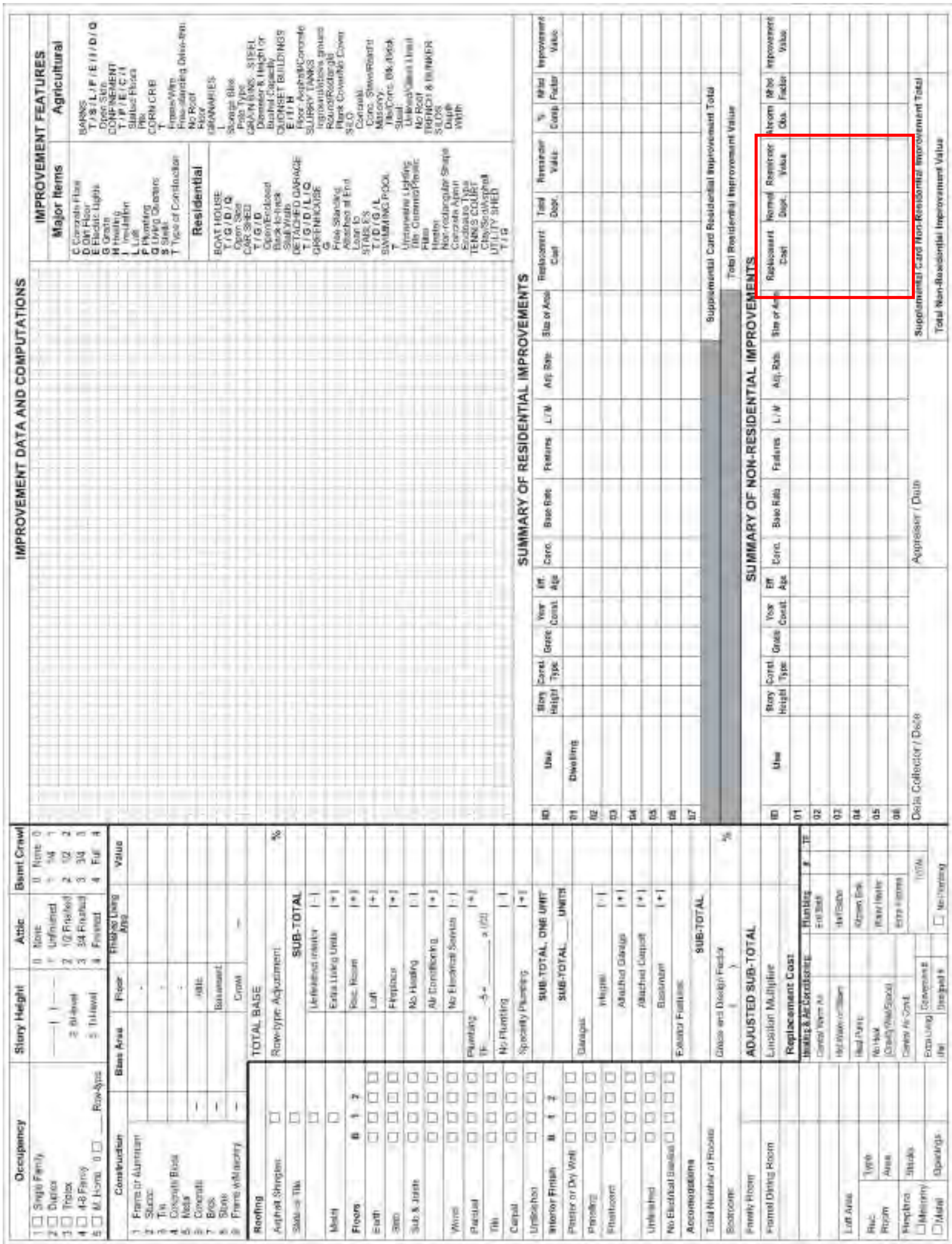
c. Record the rate in the adjusted base rate cell in the "Summary of Non-Residential Improvements" section.

d. The replacement cost is the product of the adjusted base rate times the area of the detached garage rounded to the nearest $10. Assuming a replacement cost of $8,077 would round to $8,080 rounded to the nearest $10.

e. Record the replacement cost in the "Summary of Non-Residential Improvements" section.

Task 4—Calculating the Remainder Value

The structure's remainder value is its replacement cost adjusted for normal depreciation. The shading in ***Figure 5-6*** indicates the columns of the "Summary of Non-Residential Improvements" table that you complete when calculating the remainder value of the structure.



IMPROVEMENT DATA AND COMPUTATIONS

IMPROVEMENT FEATURES

Major Items

Residential

Agricultural

Occupancy

Story Height

Attic

Bsmt Crawl

Construction

Roofing

Floors

Interior Finish

Accomodations

TOTAL BASE

SUB-TOTAL

SUB-TOTAL, ONE UNIT

ADJUSTED SUB-TOTAL

Replacement Cost

SUMMARY OF RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const Type	Grade	Year Const	Eff. Age	Cond.	Base Rate	Features	L/W	Adj. Rate	Size or Area	Replacement Cost	Total Depr.	Remainder Value	% Comp	Mrkt Factor	Improvement Value
01	Dwelling																	
02																		
03																		
04																		
05																		
06																		
07																		

Supplemental Card Residential Improvement Total

Total Residential Improvement Value

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

ID	Use	Story Height	Const Type	Grade	Year Const	Eff. Age	Cond.	Base Rate	Features	L/W	Adj. Rate	Size or Area	Replacement Cost	Normal Depr.	Remainder Value	Abnorm Obs.	Mrkt Factor	Improvement Value
01																		
02																		
03																		
04																		
05																		
06																		

Supplemental Card Non-Residential Improvement Total

Total Non-Residential Improvement Value

Data Collector / Date

Appraiser / Date

Figure 5-6. Columns Completed in Task 4

To calculate the remainder value, perform these steps:

STEP 1 Subtract the percentage determined for total depreciation (entered in the "Normal Depr." column) from 100%.

STEP 2 Divide the result obtained in Step 1 by 100 to arrive at a multiplier.

STEP 3 Calculate the remainder value by multiplying the replacement cost of the structure (entered in the "Replacement Cost" column) by the multiplier obtained in Step 2.

Remainder cost = Replacement cost **x** Multiplier obtained in Step 2

Enter the remainder value in the "Remainder Value" column rounded to the nearest $10.

Example: The replacement cost of a structure is $5,500. The normal depreciation percentage for the structure is 30%. The remainder value is:

100% – 30% = 70% ÷ 100 = .70 x $5,500 = $3,850

~~100% – 30% = 70% ÷ 100 = .70 x $5,500 = $3,850.~~

Task 5—Calculating the Improvement Value

The structure's improvement value is its remainder value,~~.~~ adjusted for abnormal obsolescence and neighborhood factor, and rounded to the nearest $100. The shading in ***Figure 5-7*** indicates the columns of the "Summary of Non-Residential Improvements" table that you complete when calculating the improvement value of the structure.


IMPROVEMENT DATA AND COMPUTATIONS

IMPROVEMENT FEATURES

Major Items

Agricultural

Residential

SUMMARY OF RESIDENTIAL IMPROVEMENTS

SUMMARY OF NON-RESIDENTIAL IMPROVEMENTS

Occupancy

Story Height

Attic

Bsmt Crawl

Construction

Roofing

Floors

TOTAL BASE

SUB-TOTAL

ADJUSTED SUB-TOTAL

Replacement Cost

Total Residential Improvement Value

Total Non-Residential Improvement Value

Data Collector / Date

Appraiser / Date

Figure 5-7. Columns Completed in Task 5

To calculate the improvement value of the structure, perform these steps:

STEP 1 –*If abnormal obsolescence depreciation applies to the structure,* divide the dollar amount of abnormal obsolescence by the "Remainder Value" to get an abnormal obsolescence depreciation percentage. Enter this percentage in the "Abnorm Obs" Column of the property record card.

Note: This column can also be utilized to make adjustments for improvements less than 100% complete. Be sure to indicate what you have done in the memorandum section.

STEP ~~3~~ 2 Calculate the neighborhood factor and enter the result in the "Nhbd Factor" cell. Information on neighborhood factors can be found in ***Appendix B***.

STEP ~~4~~ 3 The improvement value is the remainder value of the dwelling, adjusted for % complete, abnormal obsolescence and neighborhood factor (if necessary), and rounded to the nearest $100. Enter this amount in the "Improvement Value" column on the property record card.

Example: The remainder value of a structure is $3,850. Assuming the structure is 100% complete, suffers no abnormal obsolescence and the neighborhood factor is 1.00, the improvement value is $3,900.

Task 6—Calculating the Total Non-Residential Improvement Value

Calculate the improvement value for each structure by performing Task 1 through Task 5 for each structure. If you run out of rows in the "Summary of Non-Residential Improvements" section of the property record card, use an additional card (or cards).

To calculate the total non-residential improvement value for the property, perform these steps:

STEP 1 *If you used **only one** property record card to complete the "Summary of Non-Residential Improvements" for the property*, sum the entries in the "Improvement Value" column and enter the total in the "Total Non-Residential Improvement Value" cell.

*If you used **more than one** property record card to complete the "Summary of Non-Residential Improvements" for the property*, on each card except Card 001, sum the entries in the "Improvement Value" column and enter the total in the "Total Non-Residential Improvement Value" cell.

STEP 2 Sum the entries in the "Total Non-Residential Improvement Value" cell of all of the property record cards except Card 001. Enter the total in the "Supplemental Card Non-Residential Improvement Total" cell on Card 001.

STEP 3 On Card 001, sum the entries in the "Improvement Value" column, including the entry in the "Supplemental Card Non-Residential Improvement Total" cell and enter the total in the "Total Non-Residential Improvement Value" cell.

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Contents

Tables

Figures

This chapter describes the process of valuing commercial and industrial structures. It begins with an overview of the data collection procedure for structures. In order to understand the process of valuing commercial and industrial structures, you need to understand the following concepts, which are described in this chapter:

- sketching a structure
- measuring and calculating areas
- using the general commercial models
- using schedules
- understanding base rates for floor levels
- determining a structure's finish type
- determining a structure's use type
- determining a structure's wall type
- using a structure's floor height
- understanding the perimeter-to-area ratio for a structure
- determining a structure's construction type
- understanding vertical and horizontal costs
- determining the number of property record cards to use for a parcel.

The rest of the chapter provides step-by-step instructions for completing the relevant sections of the commercial/industrial property record card and for determining the true tax value for a structure.

There shall be a presumption that the replacement cost determined by the prescribed schedules is the actual replacement cost of the subject structure for purposes of determining true tax value. However, either the assessing officials or a taxpayer shall be permitted to consider and use other relevant and reliable information to rebut such presumption and establish the actual replacement cost.

Methods Used to Complete the Property Record Card

This section describes methods that you use when completing the property record card for commercial and industrial structures.

Sketching a Structure

A sketch grid is provided on the property record card to make a plain view sketch of the major structures. Keep in mind the following guidelines when sketching a structure:

- If more than one major structure is listed on the same card, number each structure for identification purposes.
- Draw the structure to approximate scale.
- Draw the structure with the side facing the street towards the bottom of the sketch grid.
- Write the dimensions inside the sketch area as close to the corresponding lines as possible.
- Record the story height of the structure.
- Identify all party walls—walls held in common ownership between two structures.
- Identify all additions by name and exterior wall construction.

Figure 6-1 shows the correct way to sketch a structure and record the necessary data.

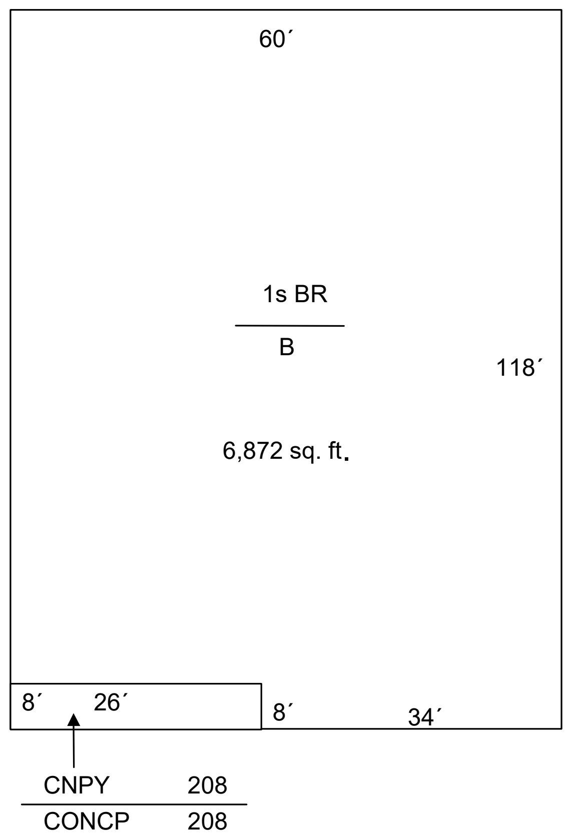


Figure 6-1. Sketch Grid

Measuring and Calculating Areas

Use the following guidelines to determine the area (square footage) of a structure:

- Measure sufficient outside dimensions of the structure to compute the gross square footage of the ground area.
- Enter all of these measurements on the sketch grid of the property record card.

Figure 6-2 and the example that follows show how to calculate the base area for a structure.

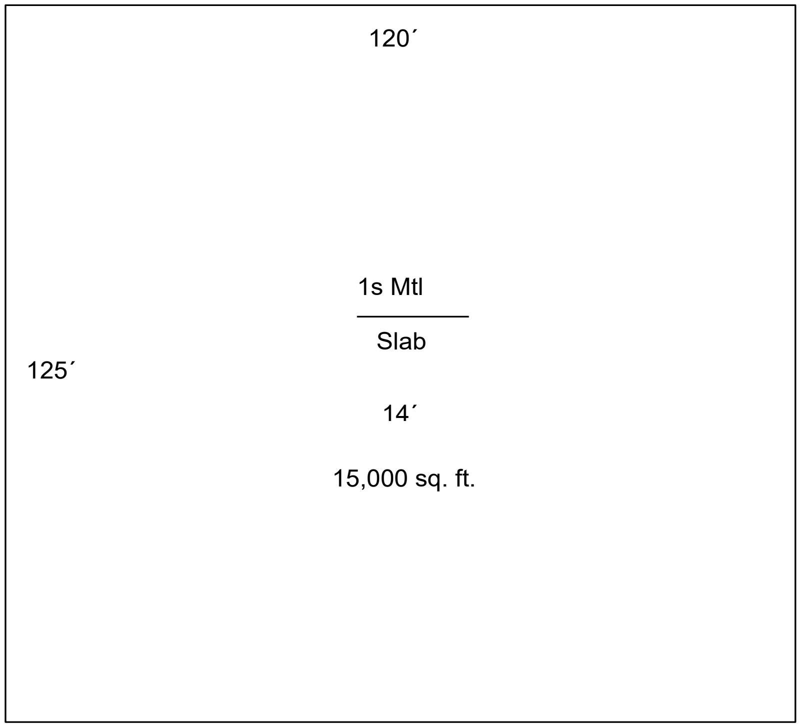


Figure 6-2. Dimensions of the Ground Area

Example: 120 x 125 = 15,000 square feet

Using the General Commercial Models

The general commercial models are conceptual tools used to assist in estimating the replacement cost new of a given structure. The models assume that there are certain elements of construction for a given use type. Select the model that best represents the subject structure. The purpose of the model descriptions included in ***Appendix D*** is to aid the user in determining if adjustments are applicable between the subject structure being valued and the model selected for use. The test of the user's estimate of replacement cost is not contingent upon the evaluation of any one construction component within the model, but rather in its approximation to the actual construction cost of the subject structure.

Example: The model for the first floor of an apartment is shown below.

(2) Model: GCM—Apartment, First

MODEL	GCM APARTMENTS
Floor Height	10'
Finish Type	Finished divided, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Two coats of paint on drywall, wood or metal furring
Flooring	30%vinyl composition tile; 65% carpet and pad; 5% ceramic tile
Ceiling	Taped and painted drywall on wood ceiling joists or metal channel supports
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of apartments.
HVAC	Heating only
Heating Only	Gas fired forced air
Cooling Additive	Add for air conditioning for one unit only from the ***Schedule C*** "Add for A.C." column. Air conditioning in multiple units is valued using the unit finish adjustment.
Plumbing	Not included. Plumbing is valued with the application of the unit finish adjustment.
Notes	Kitchen built-ins, plumbing and air conditioning are included by the application of the unit finish adjustment

Using the Schedules

The commercial and industrial cost schedules contain information for calculating the base rate of a structure. Cost schedules can be applied to an entire structure or to a portion of a structure, such as a floor or section, if the size, perimeter-to-area ratio, and construction quality are consistent. For example, the first floor of a commercial structure often has a higher quality of construction than the upper floors. This situation occurs more frequently in older structures where it is often less economically feasible to renovate the upper floors comparably to the first floor. It is also common for the first floor or lower floors to be larger in area than the upper floors. In either case, it is good practice to compute the replacement cost of individual floors or groups of floors separately.

This section provides an overview of the four types of schedules used when valuing commercial and industrial structures. Instructions for using the schedules are provided in the section ***Completing the Property Record Card*** in this chapter.

Understanding Schedule A—Base Rates

Schedule A—Base Rates provides base square foot unit rates by floor for various use and finish types. There are two types of exterior walls for GCM and GCR schedules, and a third type for a number of the GCI schedules. Additionally, there is a type 4 exterior wall type for parking garages. The rates are for a range of perimeter-to-area ratios for a specific type of construction. Adjustments are provided to account for variations in use types, wall heights, and structural framing. There are four sections in ***Schedule A***. Instructions for determining the appropriate model for a commercial or industrial structure are provided in the section ***Using the General Commercial Models*** in this chapter. The commercial models are provided in ***Appendix D***.

- **Schedule A.1—General Commercial Mercantile (GCM) Base Prices** includes use types generally associated with mercantile districts. Because these districts are often characterized by multiple uses of the same property, a wide variety of uses are included. This model category includes banks, medical offices, apartments, shopping centers, and so forth. ***Schedule A.1*** is provided in ***Appendix G***.
- **Schedule A.2—General Commercial Industrial (GCI) Base Prices** includes use types that are generally associated with industrial-related operations. This model category includes mill manufacturing, industrial offices, light and heavy manufacturing, warehouses, and so forth. ***Schedule A.2*** is provided in ***Appendix G***.
- **Schedule A.3—General Commercial Residential (GCR) Base Prices** includes use types generally associated with commercially-operated residential accommodations. These types are more typical of residential-type construction than commercial-type construction. The GCR section of ***Schedule A*** is used only for structures that have up to three stories. This model category includes apartment structures, motel units, nursing homes, and so forth. ***Schedule A.3*** is provided in ***Appendix G***.

  Structures with four or more stories and use types characteristic of commercial-type construction, such as a structure containing a retail store on the first floor and apartments on the second and third floors, are priced from the GCM schedule.
- **Schedule A.4—General Commercial Kit (GCK) Base Prices** does not include use type descriptions. ***Schedule A.4*** is used to value light pre-engineered and pre-designed wood pole and metal framed structures with exterior walls of light metal or wood that are used for commercial and industrial purposes only. A format has been developed to value the base structure on a perimeter-to-area ratio basis and adjust the value based on the various individual components of the structure. Structures classified as a *special purpose design*, as defined in the glossary of this guideline, are not valued using the GCK pricing schedule. ***Schedule A.4*** is provided in ***Appendix G***.

Understanding Schedule B—Base Price Adjustment for Story Height

Schedule B—Base Price Adjustment (BPA) for Story Height provides adjustments to the total base unit rate obtained from ***Schedule A*** for story height variations. The adjustment is required to account for the added construction costs of supports and material handling for multiple story construction. ***Schedule B*** is provided in ***Appendix G***.

Understanding Schedule C—GC Base Price Components and Adjustments

GC (General Commercial) Schedule C—GC Base Price Components and Adjustments provides further adjustments to the base unit rate for a structure to account for variations between the structure and the model chosen to value the structure. ***Schedule C*** includes adjustments mainly for interior and mechanical features. ***Schedule C*** is provided in ***Appendix G***.

Schedule C has three sub-schedules:

- **Base Price Components and Adjustments** indicates the cost of the interior and mechanical components included in the base rate unless otherwise noted. This sub-schedule includes guidelines to help in adjusting the base rate for lighting and recommended additions for automatic sprinkler systems. All component prices in this sub-schedule are expressed as square foot rates except the column headed "Walls per LF" under the "Interior Finish" heading.
- **Unit Cost Adjustments** provides a table of unit costs for the most typical interior components. Because the base replacement cost tables for the various models include interior finish and other features, it is necessary to make cost adjustments only when an actual structure varies significantly from its model. In cases where you believe a structure's interior construction is not typical of the selected model, determine the proper costs for the interior components, and add or subtract the difference between the cost included in ***Schedule C***.
- **Unit Finish Adjustments** consists of tables of composite adjustments rather than individual component adjustments. These adjustments apply to apartments, motels, and hotels.

Understanding Schedule D—Plumbing

Schedule D—Plumbing consists of whole dollar values to be added per plumbing fixture unless otherwise specified. The unit finish adjustment for apartments, hotels, and motels includes an amount for a standard complement of plumbing fixtures. The residential conventional fixture rate is used only to adjust for an excessive or deficient number of plumbing fixtures when using the unit finish adjustment. ***Schedule D*** is provided in ***Appendix G***.

Understanding Schedule E—Special Features

Schedule E—Special Features consists of either whole dollar or square foot unit values used to calculate the whole dollar replacement cost of special features not included in the ***Schedule A*** base rates. The schedule is applied by identifying the feature and selecting the most representative price based on the descriptive criteria provided in the schedule. ***Schedule E*** is provided in ***Appendix G***. When you use this schedule, keep in mind:

- The frame types given for mezzanines correspond to the construction types described in ***Schedule A***.
- The cost of elevators is given in hundreds of dollars and is based on speed in feet per minute and capacity.
- The rates for cold storage facilities apply to the total inside surface area, which is calculated as the square foot areas of the floor and ceiling plus the product of the perimeter multiplied by the height. The floor area is included only if it has insulation. The rates account for insulation applied to only one side of the partitioning and do not include the cold storage doors.
- The rates given for money vaults and record storage vaults apply to the horizontal square foot area, which is calculated as the length multiplied by the width. The rates assume an 8′ ceiling height. The rates do not include the vault door, which is valued separately.
- The rates given for the grade walls for truck wells and ramps apply to each grade wall.

Understanding Schedule F—Quality Grade and Design Factor

Schedule F—Quality Grade and Design Factor provides the grade factor percentages corresponding to the grade classifications for commercial and industrial structures. The grade factor percentage is applied to the base rate to account for variations from the model or "C" grade. The prices contained in the schedules reflect the "C" grade standards of quality and design. Information about determining the grade for commercial and industrial structures, and for using ***Schedule F***, is provided in ***Appendix E***.

Understanding Base Rates for Floor Levels

The base square foot rates for each floor level include the cost of the exterior walls, exterior wall openings, and interior components. Interior components consist of interior finish, partitioning, built-ins, and mechanical features typical for that particular model.

In addition, the cost of each floor level includes the cost of the following structural components:

- The **basement-level** price includes:
  - excavation and back-fill, the cost of which exceeds the cost of the inclusions in the first floor
  - structural floor construction of the first floor, which consists of subfloor and framing
  - stairways and access ways.
- The **first-level** price includes:
  - site preparation and normal foundation construction for a structure at grade level
  - concrete ground floor slab, including base and cement finish
  - roof construction consisting of roofing, insulation, decking, and framing
  - wall copings and parapets
  - utility service.
- The **upper-level** price includes:
  - structural floor construction consisting of subfloor and framing for each respective floor
  - stairways and access ways.

Determining a Structure's Finish Type

In ***Schedule A***, finish type is a descriptive classification indicating the extent to which the interior finish is included in the base rate. The purpose for this classification is to simplify identification and serve as a key for adjustments to a subject structure compared to the chosen model. ***Table 6-1*** describes the finish type options.

Table 6-1. Finish Type Options

This option	Indicates
UF	Unfinished walls, ceiling, and floors unless otherwise noted in ***Schedule C***.
SF	Semi-finished with minimal finish in most of the interior. Generally, the interior finish consists of paint with partial tiling. Full ceiling and wall finish is confined to the office and service areas. This classification falls between "Unfinished" and "Finished Open".
FO	Finished open space with finished walls, ceiling, and floors, and a minimal amount of interior partitioning. This classification is typical of retail areas.

This option	Indicates
FD	Finished divided space with finished walls, ceiling, and floors and an abundant amount of interior partitions. This classification is typical of offices and apartments. The dividing walls are permanent. The use of moveable or portable partitions does not indicate a finished divided classification, but indicates an adjustment from ***Schedule C*** may be necessary.

Determining a Structure's Use Type

Use type is a descriptive classification indicating the commercial and industrial use model that best describes the structure. Use the models in ***Appendix D*** to help determine the use type for a structure. Once the appropriate use model is determined (GCM, GCI or GCR), refer to the corresponding ***Schedule A*** table to locate the base rates for the appropriate use type.

Note: ***Schedule A.4*** (GCK) does not include use types as part of the base rate selection criteria.

Determining a Structure's Wall Type

Wall type is a descriptive classification indicating the exterior wall construction material used for most of the use types. Two wall type descriptions apply to most use types. However, a number of the GCI use types have a third wall type option, and the parking garage use type has a fourth wall type option. ***Table 6-2*** describes the wall type options.

Table 6-2. Wall Type Options

This option	Indicates the wall is constructed of
1	Concrete block, stucco, tile, wood, aluminum, metal siding, or an equivalent material
2	Brick, stone, concrete, or an equivalent material
3	Aluminum, metal, or steel siding on steel framing
4	Metal, concrete, or masonry guard walls 3 feet to 4 feet high. This option applies ***only*** to open parking garages.

Using a Structure's Wall Height

Wall height is model specific and represents floor-to-floor or floor-to-roof heights. These heights are defined as the vertical distance from the top of the interior floor to either the top of the next upper interior floor or to the eave of the roof. If the actual wall height is different from the wall height listed in the use-model, an adjustment is necessary.

In the GCK schedule, any wall height adjustment is made as a percentage of the base rate rather than using an established per foot rate. In the GCR schedule, if the actual wall height is different from the wall height listed, there is no adjustment to be made.

Example: In the case of the GCM models, the wall height for a utility storage basement is 9 feet, and the wall height for a general office on the first floor is 12 feet.

Understanding Vertical and Horizontal Costs

Horizontal costs are the costs included for a structure's components that are horizontal in nature and are linked directly to the square feet of floor area in the building. These costs include, but are not limited to, the following:

- floor slabs
- structural floors
- floor covering
- ceiling covering
- roof structure
- roof covering and any insulation or extras that can be attributed directly to the square foot size of the structure.

The vertical cost components are the costs included for structural components that are vertical in nature and are valued according to linear feet of surface. These costs include, but are not limited to, the following:

- studding
- wall sheathing
- brick or wood siding
- wall insulation
- interior finish of exterior walls.

Understanding the Perimeter-to-Area Ratio for a Structure

The Perimeter-to-Area Ratio (PAR) columns ("1" through "10") on ***Schedule A*** contain the base rates for structures. To permit applying the perimeter-to-area ratios to a structure of any size, the base rates provided in ***Schedule A*** were developed for a range of perimeter-to-area wall ratios, rather than for a particular size structure.

Schedules using the perimeter-to-area ratio convert the vertical cost of a structure into a dollar amount per square foot. This conversion is accomplished by multiplying the dollar amount per square foot of wall surface by the predominant wall height for a given use type and converting this amount into a dollar per square foot of floor cost.

Example: A wall is constructed of 8-inch concrete blocks. The wall's height is 12 feet. Suppose the vertical cost per square foot of a wall surface for an 8-inch concrete block wall is $8.00. Multiply the vertical cost per square foot by the wall height ($8.00 × 12′ = $96.00). Then, multiply the result by .01 (PAR 1) and round to the nearest 1/100 (.01) ($96.00 x .01 = $.96). The cost of the vertical wall expressed as a square foot cost for a perimeter-to-area ratio of 1 is $.96.

The perimeter-to-area ratio format is necessary to distribute the vertical costs of a model throughout the schedule. This concept is best illustrated by comparing a rectangular building with a square building of the same square footage. The rectangular building requires more perimeter walls than a square building to encompass the same amount of floor area.

Example: Both structures in Figure 6-3 are 2,500 square feet, and are constructed of the same type and quality of materials. Each structure is the same height and contains the same type of interior finish. Structure #2 has a perimeter of 250 feet and a perimeter-to-area ratio of 10 (250/2,500 sq. ft. = .10 X 100 = 10). Structure #1 has a perimeter of 200 feet and a perimeter-to-area ratio of 8 (200/2,500 sq. ft. = .08 X 100 = 8).The only difference between the two structures is the 50 feet of perimeter wall of the rectangular structure. The difference in the square foot cost between the perimeter-to-area ratio of 8 and the perimeter-to-area ratio of 10 for any use type would be the cost attributable to the increased vertical costs of the wall.

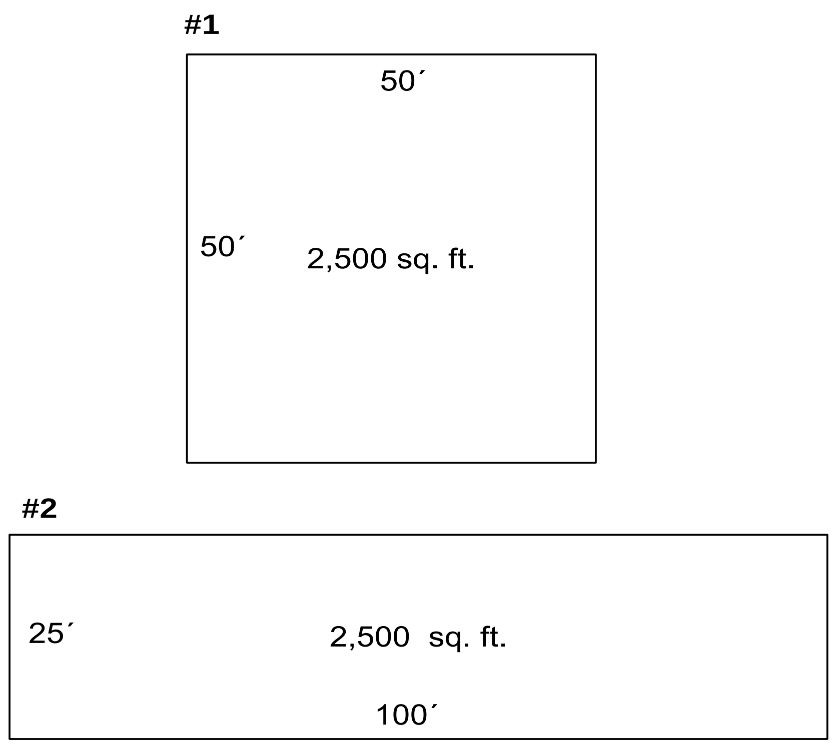


Figure 6-3. Perimeter-to-Area Ratio Adjustment

If a structure has more than one floor, care should be taken to calculate the perimeter-to-area ratio. Upper floors with the same wall dimensions and the same square foot area as the first floor will have the same perimeter-to-area ratio. For those structures where the upper floors are different then the first floor, a perimeter-to-area ratio must be calculated separately for each floor.

Example: Compare Structure #3 with Structure #4 in ***Figure 6-4***. Both structures have identical construction and an upper floor that measures 50 feet by 50 feet.

- In Structure #3, each story has a perimeter of 200 feet, an area of 2,500 square feet, and a perimeter-to-area ratio of 8.
- In Structure #4, the first floor has a perimeter of 300 feet, an area of 5,000 square feet, and a perimeter-to-area ratio of 6. However, the second floor has the same perimeter, area, and perimeter-to-area ratio as both stories in Structure #3.

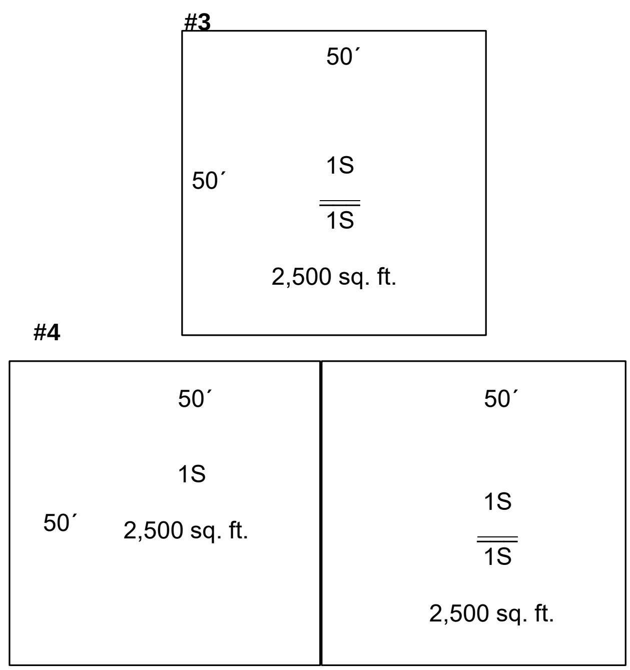


Figure 6-4. Perimeter-to-Area Ratio for a Structure with Multiple Floors

Determining a Structure's Construction Type

The base rates for the GCM and GCI schedules are based on framing that is fire resistant construction. If a structure is not constructed entirely of fire resistant material, use the framing type columns in ***Schedule A*** to determine the necessary adjustment. Then, add or subtract the amount shown in ***Schedule A*** from the base rate—subtract for wood joist and add for reinforced concrete or fireproof steel frame. ***Table 6-3*** describes the framing type options.

The base rates in the GCR schedule are based on wood joist construction and must be adjusted for fire resistant construction.

Table 6-3. Framing Type Options

This option	Indicates
1 Wood Joist	A flat or gable roof structure of wood or composition deck and structural floors of wood subflooring on wood or steel joists supported by wood and/or timber beams and columns or wood framing.
2 Fire Resistant	A flat or low profile gable roof on steel joists or open steel framing and structural floors of concrete on metal decking and steel joists supported by steel beams and columns or load bearing walls.
3 Reinforced Concrete	A concrete slab flat roof and reinforced concrete flat slab structural roof on reinforced concrete joists supported by reinforced concrete beams and columns.
4 Fireproof Steel	A flat roof of concrete or fireproofed steel deck and reinforced concrete slab on fireproofed steel deck structural floors on steel joists supported by fireproofed steel beams and columns.

Determining How Many Property Cards to Use for a Parcel

The number of property record cards associated with a property is determined on a parcel by parcel basis. This number normally depends on either the number of structures that require a sketch area, or the number of structures and yard structures that are recorded in the "Summary of Improvements" section of the property record card.

If there is only one card associated with the parcel, the "Cell No." cell appears as "001 of 001". If there are four cards associated with the parcel, the "Card No." cell for the first card appears as "001 of 004".

Completing the Property Record Card

This section describes how to enter the data required on the commercial and industrial property record card. ***Figure 6-5*** and ***Figure 6-6*** show the front and back of the state's version of the card and identifies the areas of the card. Each county's version of the property record card must represent the same information as the state's version.

The front of the state's property record card is used to describe specific property data. It is also used to record the true tax value. The back of the state's property record card is used to provide details about the structure's physical characteristics, base rate information and adjustments, and other improvement information concerning the parcel.

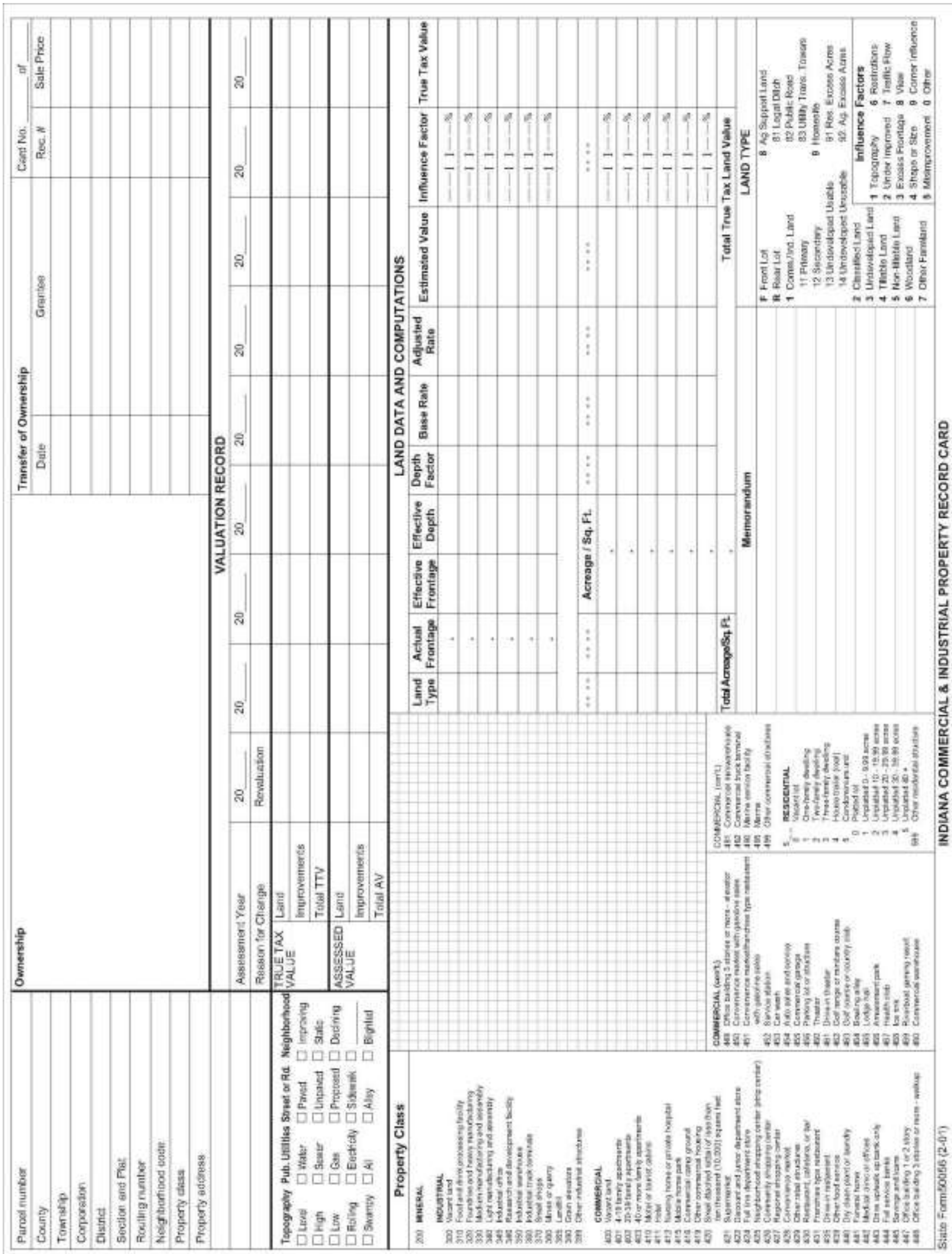
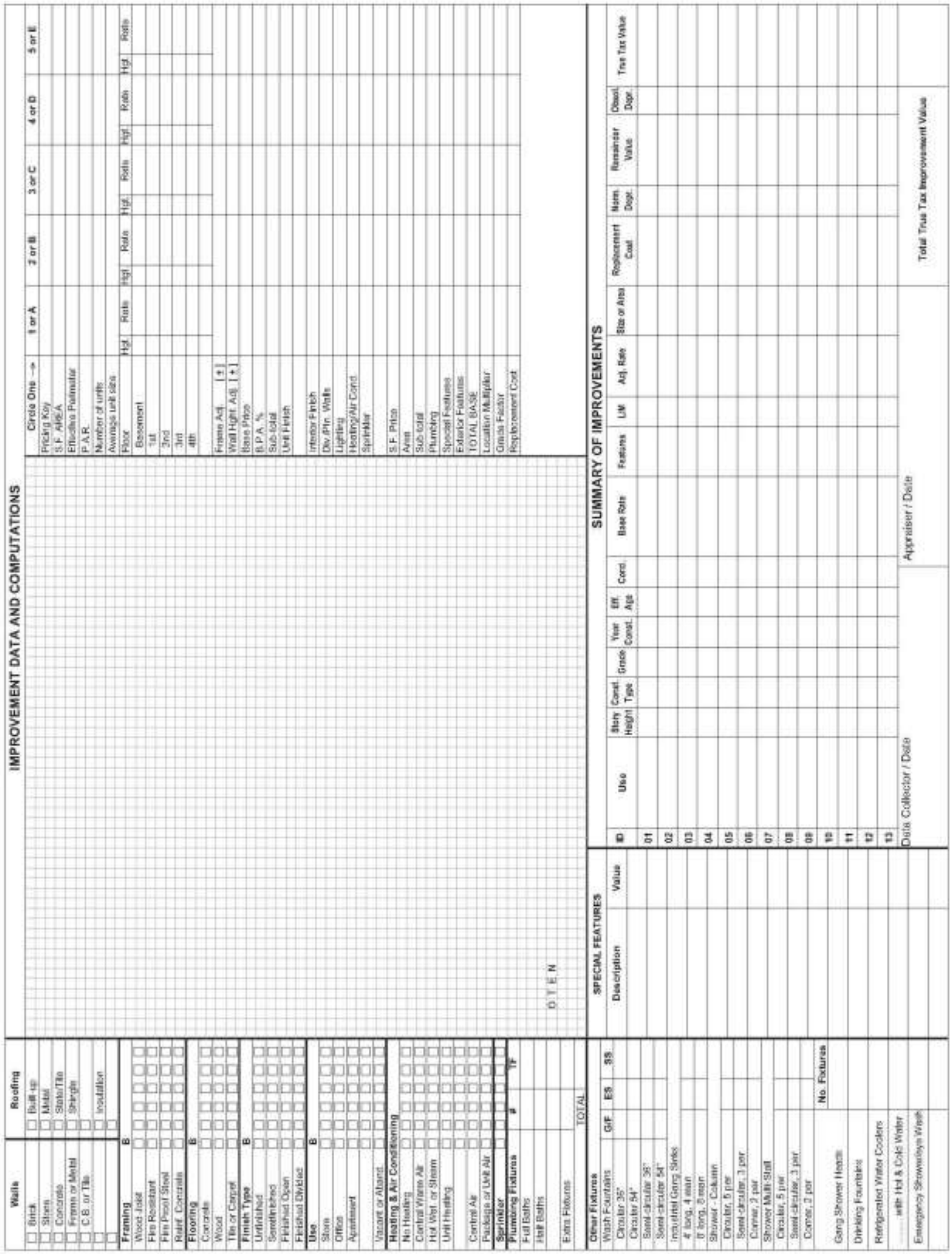


Figure 6-5. Property Record Card—Front



IMPROVEMENT DATA AND COMPUTATIONS

Walls: Brick, Stone, Concrete, Frame or Metal, C.B. or Tile

Roofing: Built-up, Metal, Slate/Tile, Shingle, Insulation

Framing: Wood Joist, Fire Resistant, Fire Proof Steel, Reinf. Concrete

Flooring: Concrete, Wood, Tile or Carpet

Finish Type: Unfinished, Semifinished, Finished Open, Finished Divided

Use: Store, Office, Apartment, Vacant or Aband.

Heating & Air Conditioning: No Heating, Central Warm Air, Hot Wat. or Steam, Unit Heating, Central Air, Package or Unit Air

Sprinkler

Plumbing Fixtures: Full Baths, Half Baths, Extra Fixtures, TOTAL

Other Fixtures (G/F, ES, SS): Wash Fountains, Circular 36", Circular 54", Semi-circular 36", Semi-circular 54", Industrial Gang Sinks, 4' long, 4 men, 8' long, 8 men, Shower - Column, Circular, 5 per, Semi-circular, 3 per, Corner, 2 per, Shower Multi-Stall, Circular, 5 per, Semi-circular, 3 per, Corner, 2 per, Gang Shower Heads, Drinking Fountains, Refrigerated Water Coolers, with Hot & Cold Water, Emergency Shower/Eye Wash, No. Fixtures

Circle One →: 1 or A, 2 or B, 3 or C, 4 or D, 5 or E (Hgt., Rate)

Pricing Key, S.F. AREA, Effective Perimeter, P.A.R., Number of units, Average unit size, Floor, Basement, 1st, 2nd, 3rd, 4th, Frame Adj. (±), Wall Hght. Adj. (±), Base Price, B.P.A. %, Sub-total, Unit Finish, Interior Finish, Div./Ptn. Walls, Lighting, Heating/Air Cond., Sprinkler, S.F. Price, Area, Sub-total, Plumbing, Special Features, Exterior Features, TOTAL BASE, Location Multiplier, Grade Factor, Replacement Cost

SPECIAL FEATURES: Description, Value

SUMMARY OF IMPROVEMENTS: ID, Use, Story Height, Const. Type, Grade, Year Const., Eff. Age, Cond., Base Rate, Features, L/M, Adj. Rate, Size or Area, Replacement Cost, Norm. Depr., Remainder Value, Obsol. Depr., True Tax Value

01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13

Data Collector / Date; Appraiser / Date; Total True Tax Improvement Value

Figure 6-6. Property Record Card—Back

The sections below describe in detail how to complete each relevant section of the state's version of the property record card for a commercial or industrial structure. The card is designed for listing up to five (5) major commercial or industrial structures or structure sections. As you read these instructions, keep in mind that your county's property record card may be slightly different.

Note: Instructions for recording the general information on the front of the property record card, completing the "Land Data and Computations" section of the card, and completing the valuation record section of the card are provided in Chapter 2.

Task 1—Recording the Construction Features and Components

Before any data can be recorded for a specific structure, the assessor must determine the most organized method of identifying the physical characteristics within the structure. This identification process is based on the number of separations necessary to evaluate and price the structure's configuration.

A construction check list is provided on the property record card to record a general description of the construction features and components of commercial and industrial structures. Space is provided to list five structures or structure sections. If more than one structure or sections of a structure are being described, assign a one character code, such as an "A" or a "B", to each structure or section in order to differentiate among them. If the structure being described is a separate floor or section of the structure, assign a two-digit code to reflect the building number as the first character and the second character as the section or floor designation. For example, an "A1" designation would identify building "A" and either the first floor or the first section ("1") of building "A". Continue this coding until all sections or floors are identified.

To record the structure's construction features and components, perform these steps:

STEP 1 In the "Walls" section, place a check in the check box for the option that best describes the type of exterior wall construction.

Delineation by linear footage of exterior wall construction may be necessary to correctly identify the number of linear footage of mixed construction materials. Record the measurement in the check box provided for each type of material.

Table 6-4 describes alternative codes to enter in the space provided if the exterior wall is constructed of two or more different types of material. These codes may be used if the structure's exterior walls are clearly defined and agree with the options.

Table 6-4. Additional Wall Options

Enter	To indicate
1S	One (1) side
2S	Two (2) sides
F	Front
FR	Front and rear
R	Rear

Note: Do ***not*** include back-up materials, which are intended to be a back-up for the exterior surface, unless they are exposed as the structure's main exterior.

STEP 2 In the "Roofing" section, place a check in the check box for the option that best describes the type of roofing material used on the roof. *If a roofing material other than the ones provided is used*, check the box with the blank next to it and write in the name of the material. For multiple structures or multiple sections of structures, record the character code designation in the applicable check box.

STEP 3 *If the framing material is consistent throughout the structure or section of a structure*, in the "Framing" section, place a check in the check box for the option that best describes the type of framing. Follow these guidelines:

- The type of framing for the column headed basement ("B") applies to the framing supporting the first floor.
- The type of framing indicated in the column assigned to the first floor applies to the framing supporting the roof, regardless of the story height.

Figure 6-7 shows the four framing types listed on the card.

*If the framing material is **not** consistent throughout the structure*, instead of a check, enter the percentage of each framing in the appropriate check boxes.

STEP 4 In the "Flooring" section, place a check in the check box for the option that best describes the floor construction of the structure or sections of the structure.

STEP 5 In the "Finish Type" section, place a check in the check box for the option that best describes the interior finish type of the structure or sections of a structure. ***Table 6-5*** describes the interior finish options.

Table 6-5. Interior Finish Options

This option	Indicates
Unfinished	Unfinished walls, ceiling, and floors. This classification is typical of utility basements.
Semi-finished	Very minimal finish in most of the interior, generally consisting of paint with partial tiling. Full ceiling and wall finish is confined to the office and service areas. This classification falls between "Unfinished" and "Finished Open".
Finished Open	Finished open space, indicating finished walls, ceiling, and flooring, with scant partitioning. This classification is typical of retail areas.

This option	Indicates
Finished Divided	Divided space, indicating finished walls, ceiling, and flooring, with abundant partitioning. This classification is typical of offices and apartments. The division walls are permanent. The use of movable or portable partitions does not indicate a finished divided classification. In this situation, the finished open classification should be checked with the understanding that adjustments from ***Schedule C*** may be necessary.

STEP 6 In the "Use" section, place a check in the check box for the option that best describes the current use of the structure or the section of the structure.

If the structure is currently vacant, place a check in the "Vacant or Aband." check box, in addition to the indicated use.

STEP 7 In the "Heating & Air Conditioning" section, place a check in the check box for the option that best describes the type of heating and air conditioning system in the structure or the section of the structure. Follow these guidelines:

- *If the type of heating system is available only to a portion of the structure*, place a check in the check box for the type of system and write the percentage to the nearest 10% of heated floor space immediately next to the check box.
- *If no heating system is available on one or more sections in the structure*, place a check in the "No Heating" check box.
- *If air conditioning is available*, check the proper type of system, and indicate the total tonnage, if known.
- *If the type of air conditioning system is available only to a portion of structure*, place a check in the check box for the type of system and write the percentage to the nearest 10% of cooled floor space immediately next to the check box.

STEP 8 In the "Sprinkler" section, place a check in the check box for the option that best describes the floor levels that are protected by sprinklers.

If sprinklers are available only to a portion of the structure or section of the structure, place a check in the check box for the type of system and write the percentage to the nearest 10% of floor space with sprinklers immediately next to the check box.

STEP 9 In the "Plumbing Fixtures" section, enter the total number of full baths, half baths and extra plumbing fixtures in the structure or sections of the structure in the "#" column. Then, enter the total number of fixtures in the "TF" column.

STEP 10 In the "Other Fixtures" section, enter the total number of each type of fixture for the type of composition. ***Table 6-6*** describes the plumbing fixtures composition options.

Table 6-6. Plumbing Fixture Composition Options

This option	Indicates
G	Granite~~e~~
F	Fiberglass
ES	Enameled steel
SS	Stainless steel

STEP 11 In the "Special Features" section, enter descriptions of any special construction features or components not described in the construction features and components section of the property record card.

Schedule E, located in ***Appendix G***, contains the items considered to be special features. The following items are considered to be special features:

- mezzanines
- penthouses
- mall concourse areas
- banking features
- atriums
- marquees
- certain health and recreational club facilities.
- passenger elevators
- freight elevators
- boilers
- cold storage facilities
- dock facilities
- canopies

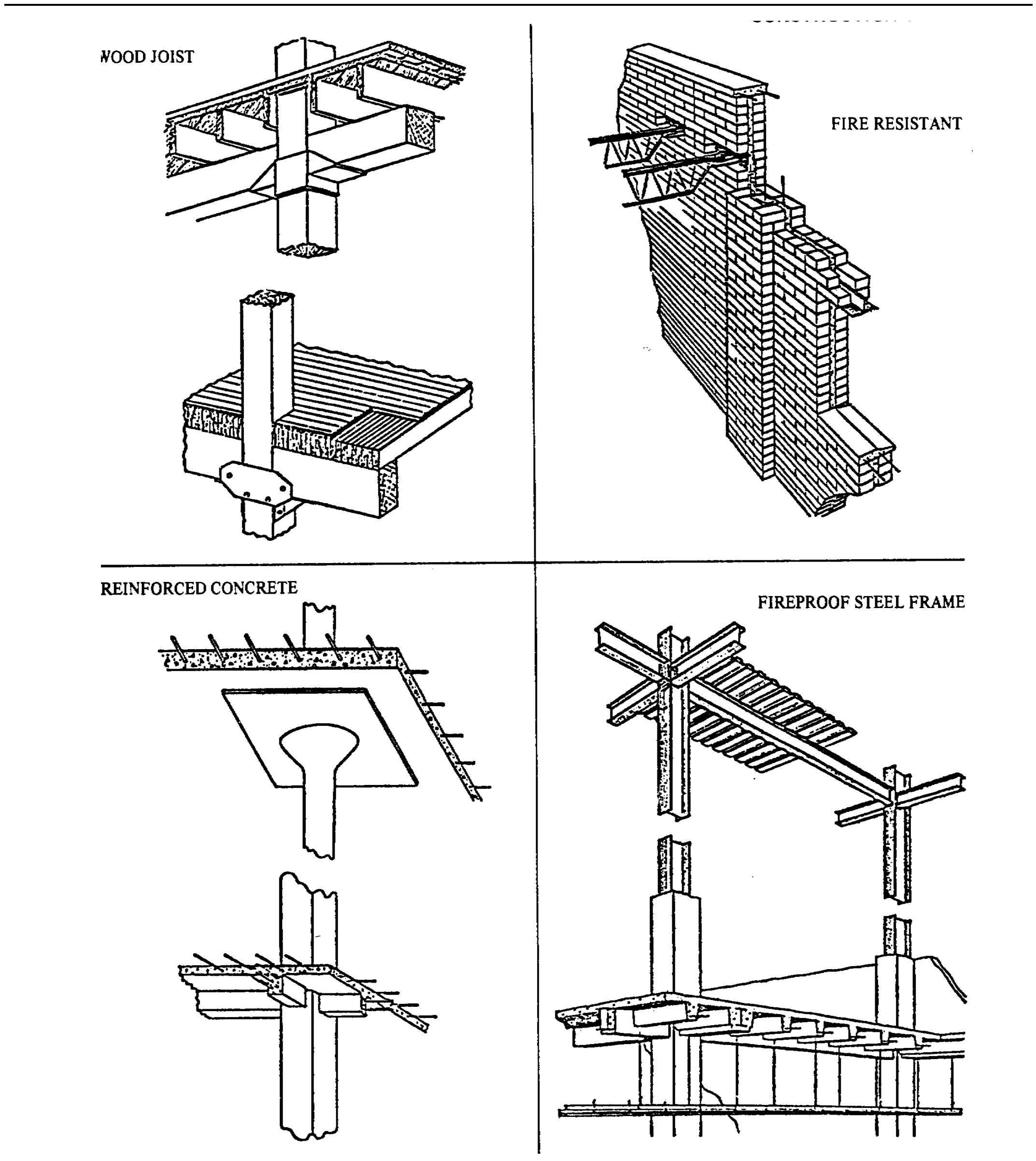


Figure 6-7. Framing Types

Example: The data collection example in ***Figure 6-8*** represents a three story brick structure with an unfinished concrete block utility storage basement. The framing of the structure is wood joist, and all floors, excluding the basement, have wood sub-flooring with carpet. The basement floor is concrete. The interior finish type of the general retail store located on the first floor is finished open, whereas the finish type of the apartments located on the second and third floors is finished divided. The structure has a hot water heating system with package air conditioning confined to the first floor. There are six apartments with full baths on both the second and third floors, two half baths on the first floor, and a maintenance sink on each of the three floors. There is no sprinkler system. The roof is composed of a wooden deck on wooden timbers covered with a felt pad and tar mixture.

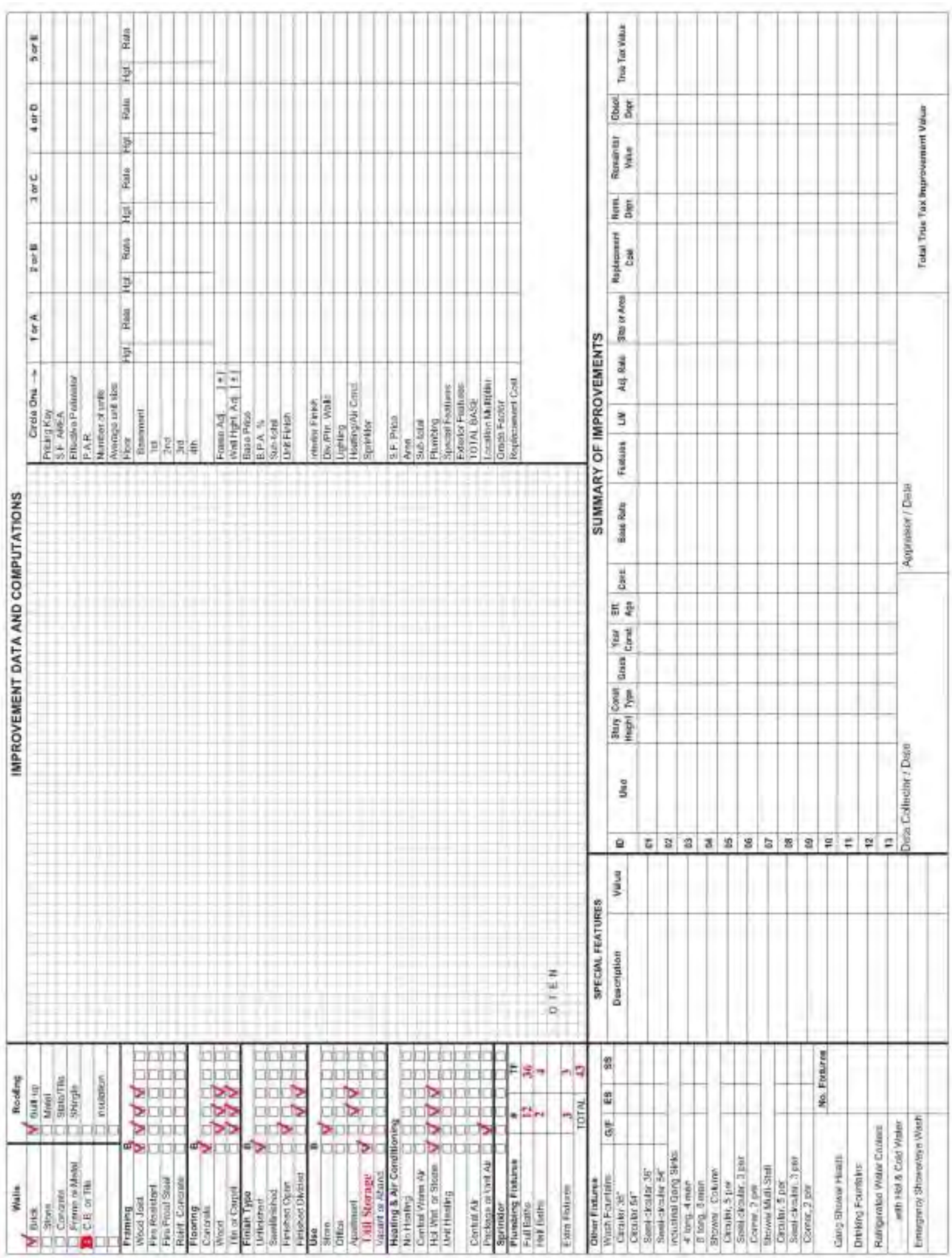


Figure 6-8. Construction Features and Components Section Example

Task 2—Completing the Sketch Grid

You record the physical characteristics of the structure on the back of the property record card. A sketch grid, shown in ***Figure 6-9***, is provided on the property record card to make a plain view sketch of the major structures or sections of a structure. On the sketch grid, you also indicate the source of the property data collected for the property.

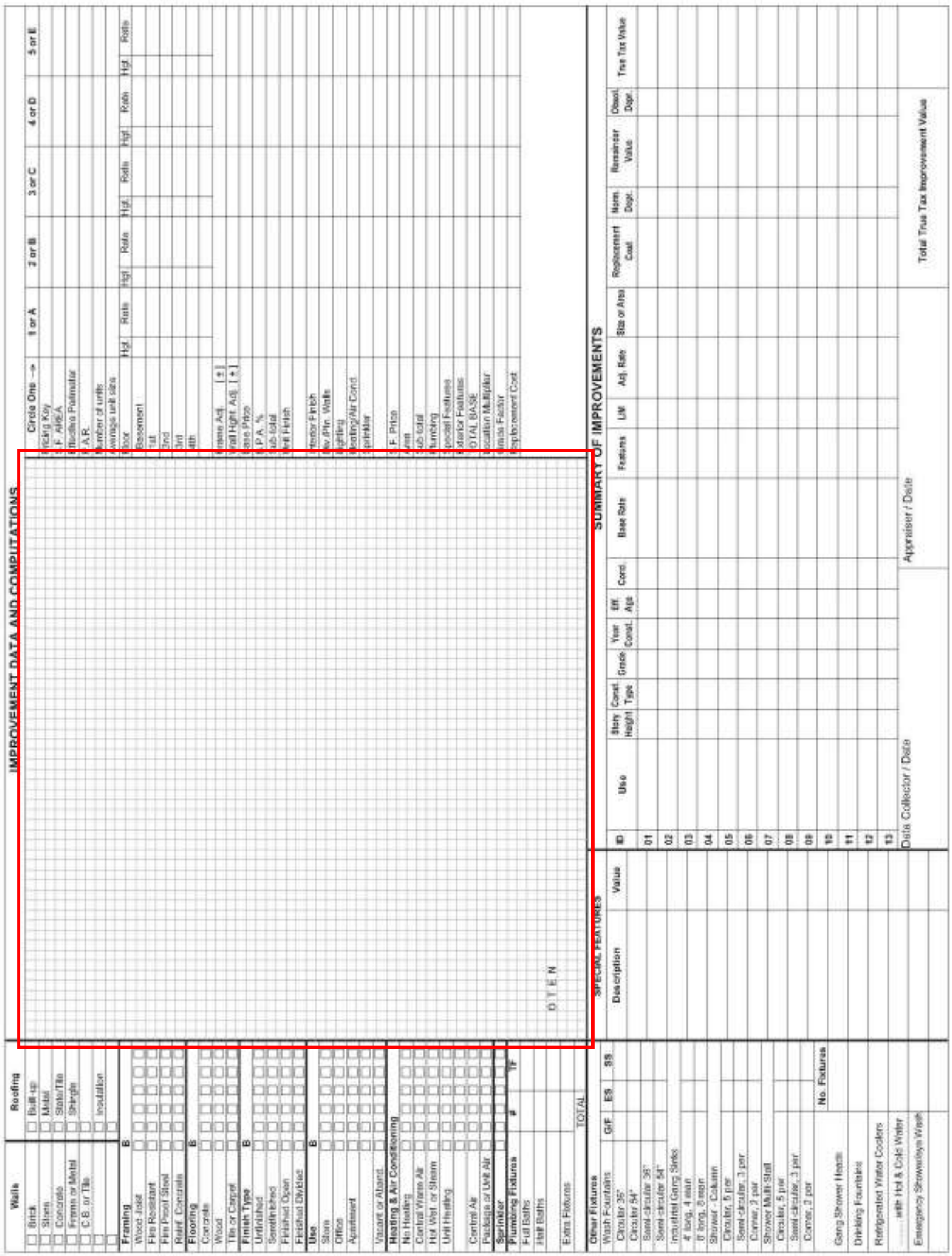


Figure 6-9. Sketch Grid Section

Complete the sketch grid for each parcel. Follow these guidelines:

- Draw the structure to approximate scale.
- Draw the structure with the side facing the street towards the bottom of the sketch grid.
- Enter sufficient outside dimensions of the structure to compute the gross square foot ground area. Guidelines are provided in the section ***Measuring and Calculating Areas*** in this chapter.
- Enter the computed gross square foot ground area of the structure on the drawing.
- Enter the proper story height of the structure on the drawing.
- Identify all party walls (walls held in common ownership) of the structure and enter the appropriate dimensions on the drawing.
- Identify all additions to the structure, such as porches, canopies, decks, and other exterior features. Then for these features, enter:
  - — the outside dimensions
  - — the computed gross square foot ground area
  - — the story height
  - — the exterior wall construction.
- To indicate the source of the property data, circle the appropriate letter or letters listed in the bottom left of the sketch grid. ***Table 6-7*** describes the source options.

Table 6-7. Source of Property Data

This option	Indicates
O	Owner
T	Tenant
E	Estimated
N	Structure was not entered, information was obtained at the site

Example: The example in ***Figure 6-10*** represents a one story concrete block structure that is 2,400 square feet. The width of the structure's front facing the street is 40 feet, and the side dimension of the structure is 60 feet. The floor height of the structure is 14 feet. Information about the structure was obtained from the owner.

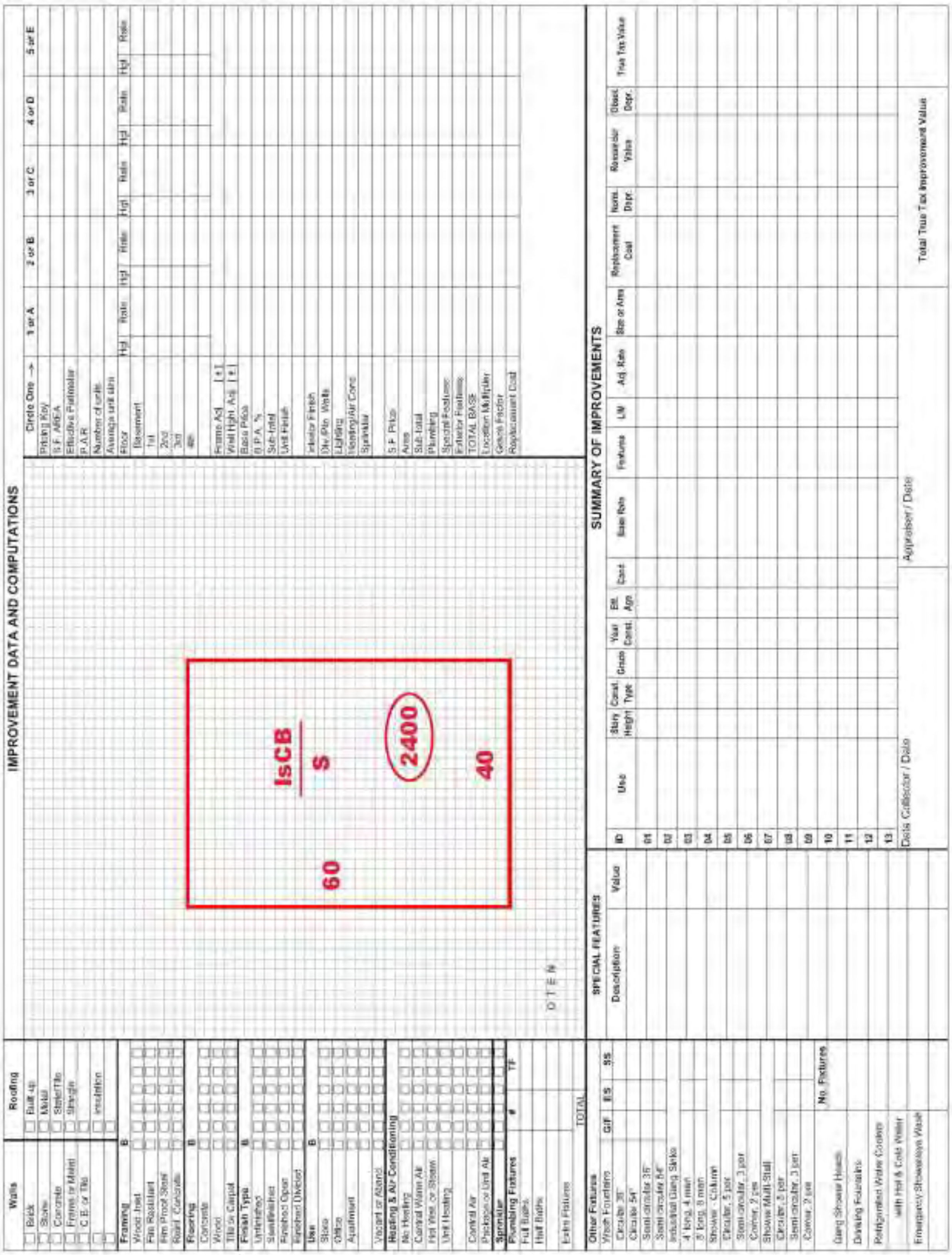


Figure 6-10. Sketch Grid Example

Task 3—Calculating the Replacement Cost for a Structure

An area is provided on the property record card to calculate the replacement cost of the structure or sections of the structure that are described on the card. The individual replacement costs can either be totaled to arrive at a single replacement cost or treated separately. ***Figure 6-11*** shows the replacement cost calculation section.

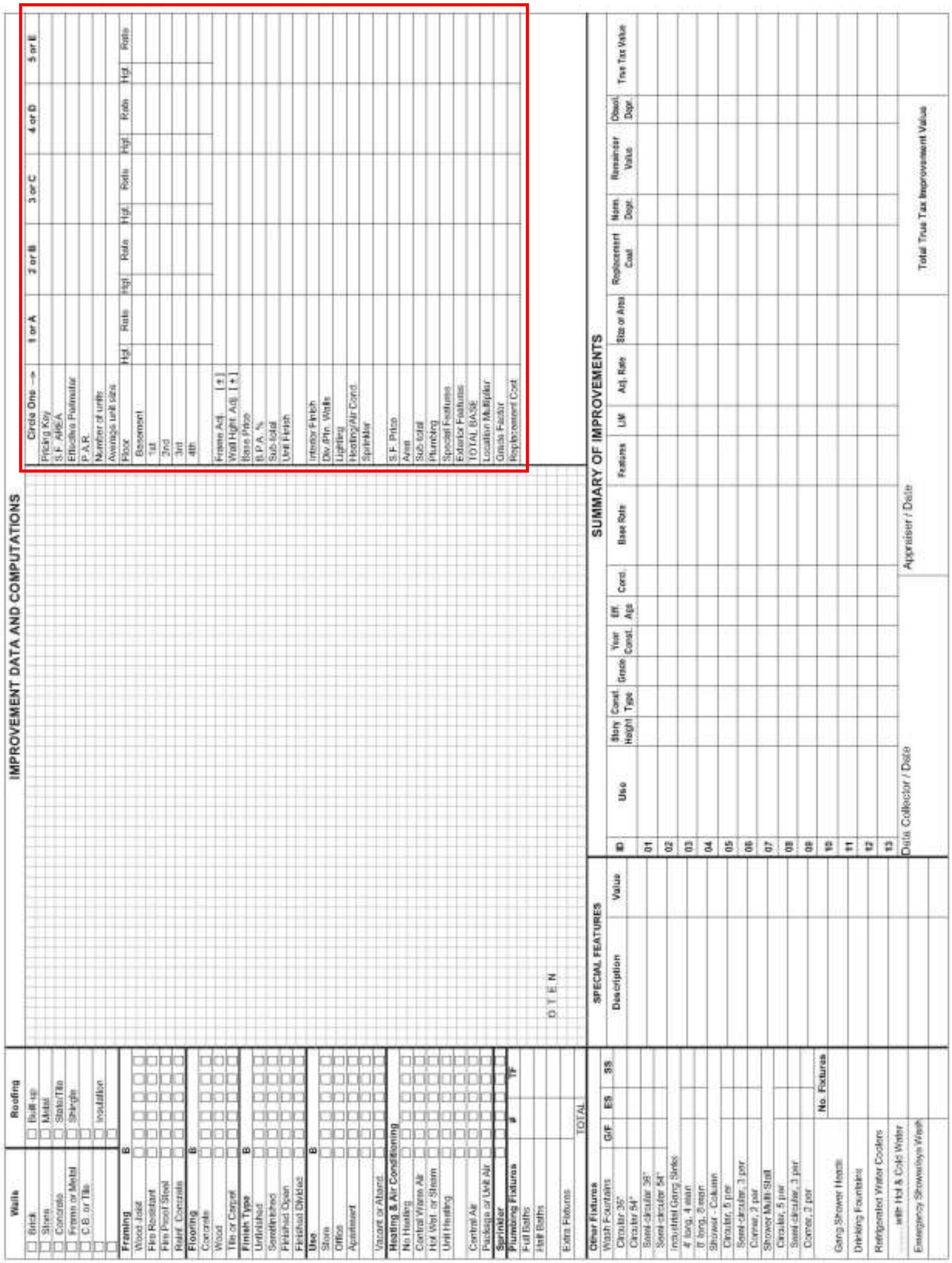


Figure 6-11. Replacement Cost Calculation Section

Calculating the Perimeter-to-Area Ratio

The perimeter-to-area ratio is used to locate the base price on ***Schedule A***. To calculate the perimeter-to-area ratio for a structure, perform these steps:

STEP 1 In the "Pricing Key" row, enter the pricing key by model number and list the general commercial pricing schedule applicable to the subject building or building section.

STEP 2 In the "S~~Q~~. F~~T~~. ~~Area~~AREA" row, enter the square footage for the structure.

STEP 3 In the "Effective Perimeter" row, enter the total linear feet of exterior walls for the structure.

If the structure contains a party wall, calculate the length of the perimeter wall as follows:

- For a structure with a party wall with an **unfinished interior surface**, use 50% of the length of the party wall.
- For a structure with a party wall with a **finished interior surface**, use 60% of the length of the party wall.

STEP 4 Calculate the perimeter-to-area ratio (PAR) by dividing the structure's effective perimeter, calculated in Step 3, by the structure's total square footage:

PAR = (Effective ~~perimeter~~Perimeter ÷ Square footage) **x** 100

Round the perimeter-to-area ratio to the nearest whole number and enter it in the "P.A.R" cell.

Example: The perimeter-to-area ratio of a structure whose linear footage is 80 and square footage is 800 is:

80 ÷ 800 = .1 **x** 100 = 10 (rounded)

~~80 ÷ 800 = .1 x 100 = 10 (rounded).~~

STEP 5 *If the structure is an apartment, motel, or similar building for which the average unit size is used as a basis for computing the replacement cost*, enter the number of living units in the "Number of Units" cell. Then, in the "Average Unit Size" cell, enter the average unit size for the entire structure.

Note: Calculate the average unit size by dividing the total square foot area to which the unit base price is to be applied by the total number of units.

*If the structure is **not** an apartment, motel or similar building for which the average unit size is used as a basis for computing the replacement* *cost*, leave the "Number of Units" row and the "Average Unit Size" cell blank.

Example: The example in ***Figure 6-12*** represents a one-story brick apartment building that is 6,000 square feet. The outside dimensions of the structure are 60 feet by 100 feet. There are six apartment units in the structure with an average size per unit of 1,000 square feet.

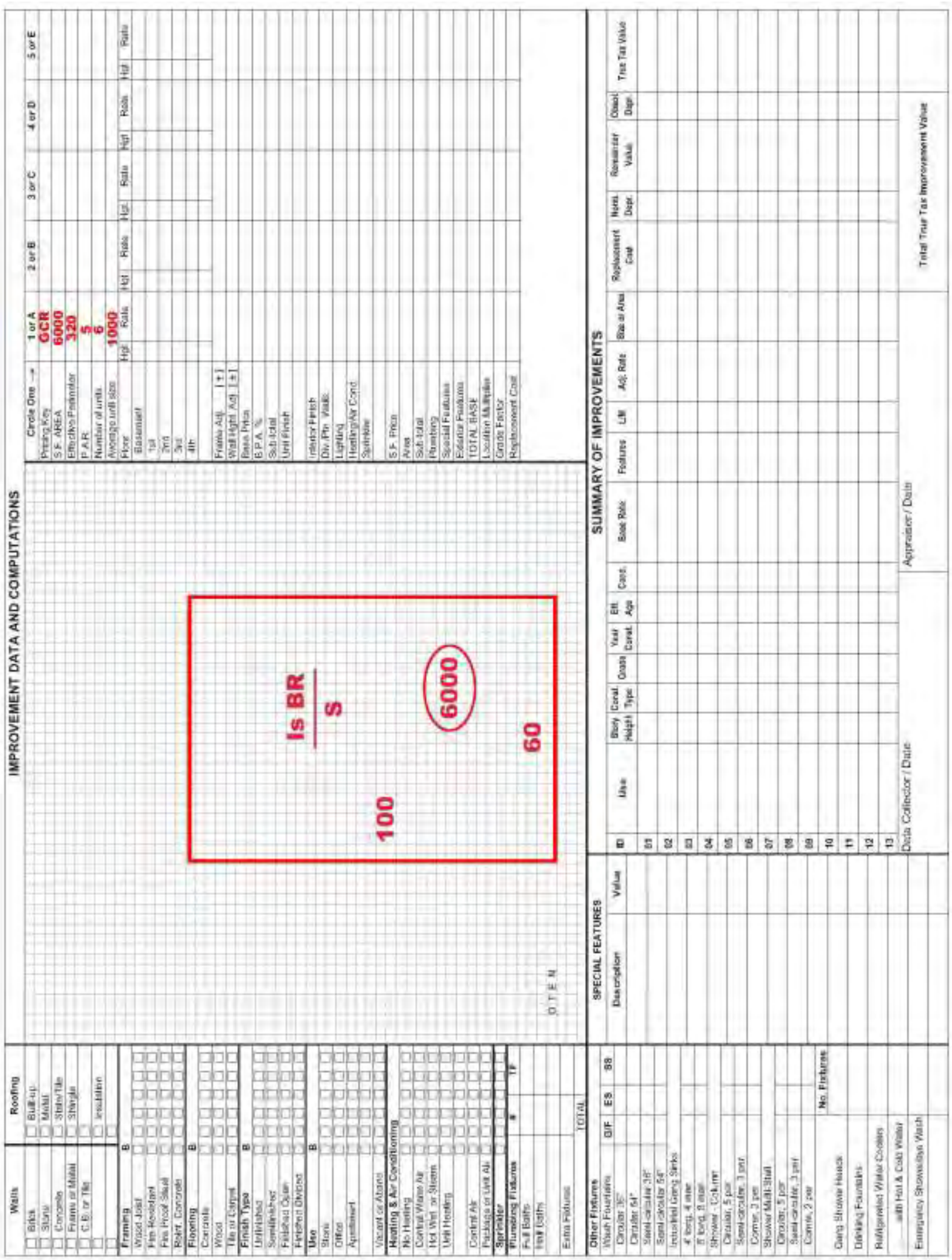


Figure 6-12. Perimeter-to-Area Calculation Example

Calculating the Base Rate of the Structure

To calculate the base rate of the structure using the appropriate ***Schedule A*** table as a guide, follow these steps:

In the “Hgt.” column, enter the actual measurement of the wall height or the calculated average height of each floor level of the structure. In the “Rate” column, enter the base rate of each floor level in the structure. When calculating the base rate, follow these guidelines:

- *If the basement area is not priced as an individual building section*, a partial basement may be priced using the area percentage as compared to the area of the first floor. The applicable percentage of basement is multiplied against the basement pricing of the appropriate model.
- *If the basement area is priced as an individual building section*, a partial basement is valued by performing the steps in the section ***Calculating the Perimeter-to-Area Ratio Information*** in this chapter.
- *If the basement size exceeds the base ground floor area*, it is priced as an individual building section. However, *if the area in excess of the base ground floor area is valueless*, it may be priced as a full or partial basement.
- Blank spaces are provided to insert subbasements and upper floors.
- Any number of upper floors, including the second floor, may be grouped together if there are no significant variations in use and construction among them. In these cases, describe the floor levels, enter the measured wall height or, in case of variations, the total wall height and the total base rate, which is equal to the number of floors multiplied by the base rate for each.
- If the structure has two or more sections with varying exterior wall heights, as shown in ***Figure 6-13***, perform the following calculations to arrive at an average wall height:
  - **a.** Determine the percentage of the structure containing each wall height. Multiply each percentage by its corresponding wall height.
  - **b.** Determine the average wall height for the structure by adding the results of Step (a) and rounding to the nearest whole number of feet.

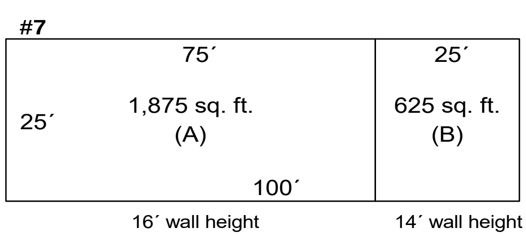


Figure 6-13. Structure with Varying Wall Heights

To calculate the base rate of the structure, perform these steps:

STEP 1 Locate the appropriate "Floor" row for the area. In the "Hgt." columns, enter the wall height of each floor in the structure.

STEP 2 Identify the appropriate use model for the structure (GCM, GCI, GCR) and locate the corresponding section of ***Schedule A***.

STEP 3 Locate the structure's base rate in ***Schedule A***:

Note: Refer to the data entered in ***Task 5—Recording the Construction Features and Components*** in this chapter for the appropriate descriptions of the structure.

- **a.** In the "Floor Level" column, locate the rows corresponding to the floor level.
- **b.** In the "Fin Type" column, locate the rows within the floor level corresponding to the finish type.
- **c.** In the "Use Type" column, locate the rows within the finish type corresponding to use type.
- **d.** In the "Wall Type" column, locate the row within the use type corresponding to the wall type.
- **e.** In columns "1" through "10" in the "Fire Resistant" section, locate the column corresponding to the perimeter-to-area ratio calculated in the ***section Calculating the Perimeter-to-Area Ratio*** in this chapter.

  *If using the GCR schedule (**Schedule A.3**),* the perimeter-to-area ratio columns are in the "Wood Joist" section.
- **f.** *If the perimeter-to-area ratio is greater than 10*, perform the following adjustment calculation:
  1. Subtract 10 from the calculated perimeter-to-area ratio.
  2. Multiply the adjustment price in the "+1" column in the same row by the result of the subtraction.
  3. Add the result of the multiplication to the base rate in the "10" column.
- **g.** Find the intersection of the row selected in Steps 4(a) through 4(d) and the column selected in Step 4~~e~~(e).
- **h.** In the "Rate" cell corresponding to the applicable floor level, enter the base rate for the structure.

Example: A freestanding 20 feet by 40 feet structure has a perimeter-to-area ratio of 15. The linear footage is 120. The square footage is 800. The perimeter-to-area ratio is: 120 ÷ 800 sq. ft. = .15 x 100 = 15. The perimeter-to-floor ratio

adjustment is 15 -10 = 5. The adjusted base rate is:
(5 x adjustment rate) + base rate given in the "10" column.

STEP 4 *If the structure has two or more use types*, as shown in ***Figure 6-14***, perform the following calculations:

a. Determine the perimeter-to-area ratio for the structure. Instructions are provided in the section ***Calculating the Perimeter-to-Area Ratio*** in this chapter.

b. Determine each use type for each finish type in the structure.

c. Using ***Schedule A***, determine the base rate for each use type.

d. Determine the percentage of floor space occupied for each use type by dividing the area by the total area:

% of use = Area of ~~use~~Use ÷ Total A~~a~~rea **x** 100

e. Multiply the base rate for each use type by the percentage of that use for each floor.

f. Add the results of Step 4(d) and Step 4(e) for each use type.

g. Enter the result of Step 4(f) in the "Base Rate" cell.

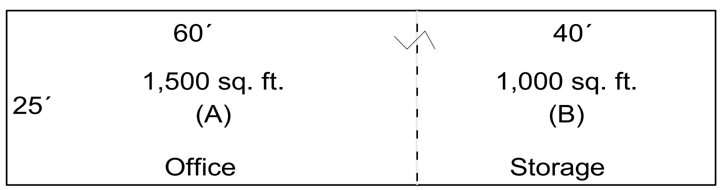


Figure 6-14. Perimeter-to-Area Ratio for a Structure with Multiple Use Types

STEP 5 *If the framing material is **not** consistent throughout the structure*, as shown in ***Figure 6-15***, perform the following steps:

a. Determine the percentage of the floor area that is ***not*** constructed of all fire resistant framing material.

b. Determine the adjustment necessary as if the entire building were constructed of the non-fire resistant material.

c. Multiply the percentage determined in Step 5(a) by the adjustment amount obtained in Step 5(b).

d. Enter the positive or negative result of Step 5(c) in the "Frame Adj." cell.

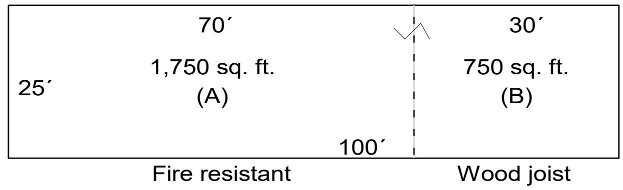


Figure 6-15. Structure with Multiple Framing Types

STEP 6 *If the structure has a different wall height than the selected use model*, adjust the base price:

a. Determine the difference between the structure's wall height and that of the use model.

b. In the "Wall Hgt." section of ***Schedule A***, locate the rows for the finish type.

c. In the "Wall Type" column, locate the row for the wall type.

d. Locate the column corresponding to the perimeter-to-area ratio for the structure.

e. Multiply the calculated wall height adjustment price by the number of feet of wall height different from the model.

f. Enter the wall height adjustment in the "Wall Ht. Adj." cell.

Note: The wall height adjustment in the "1 through 10" columns represent adjustments for fire resistant construction. If the framing type is not fire resistant, the wall height must reflect the adjustment for wood joist, reinforced concrete, or fireproof steel for each foot of wall height difference from the model.

STEP 7 *If the structure has a dock floor*, adjust the base price:

a. Determine the height of the dock floor above ground level.

b. Determine the amount of adjustment by comparing the dock floor wall type and perimeter-to-area ratio of the structure in the "Dock Floor" section.

c. Multiply the number of feet in dock floor height times the adjustment per foot.

Enter the calculated adjustment in the blank space of the pricing ladder.

Example: A truck terminal is 50 feet by 200 feet. The first floor is 4 feet above grade level. Add 4 times the amount shown for a dock floor with a perimeter-to-area ratio of 5.

STEP 8 Add the base prices calculated in Step 4 or Step 5 to the adjustments calculated in Step 6, Step 7, and Step 8. Enter this sum in the "Base Price" cell.

STEP 9 Calculate the adjustment based on the actual story height of the structure. The adjustment accounts for the added construction costs of supports and material handling in multiple story construction.

- When calculating the actual story height, the basement is not counted as a story, but the basement base rate is included in the total unit rate.
- The ***Schedule B***—Base Rate Adjustment (BPA) table accommodates structures up to 34 stories. Be sure to add the appropriate percentage to the adjustment percentage for each floor over 34 stories.

To calculate the BPA factor, perform the following steps:

a. Select the adjustment percentage corresponding to the actual story height.

b. In the "B.P.A.%" cell for the appropriate structure or sections of the structure, enter the adjustment percentage.

c. Calculate a multiplier by dividing the adjustment percentage by 100.

STEP 10 Multiply the base price entered in Step 9 by the B.P.A.% from Step 10.

STEP 11 Enter the result from Step 11 in the "Sub-Total" cell.

Calculating the Schedule C—GC Base Price Components and Adjustments

Use ***Schedule C*** to further adjust the base rate to account for variations between the structure and the model. Whereas ***Schedule A*** and ***Schedule B*** include structural adjustments, ***Schedule C*** adjusts mainly interior and mechanical features. Unless otherwise noted, the rates included in the table identified as "GC Base Price Components and Adjustments" represent the dollar amounts included in the ***Schedule A*** base prices for the interior and mechanical features in each model.

The "Unit Finish" cell on the property record card is used only when the average unit size of an apartment unit, a motel unit, or a hotel unit is necessary to calculate the adjusted rate of a structure. This adjustment is based on the average unit's size and is added on a per floor basis.

An adjustment from the "GC Base Price Components and Adjustments" table is made when a subject structure's interior finish and mechanical features deviate from the model description chosen to price the structure. The "CH" column included in this table is provided as a reference to the ceiling height within the structure, if applicable. This reference establishes the amount of finished interior wall height calculated for each model.

To calculate an adjustment from this table, perform these steps:

STEP 1 In the "ID" column, locate the use model corresponding to the structure.

STEP 2 In the "Floor Level" column, locate the rows corresponding to the structure's floor level.

STEP 3 In the "Fin. Type" column, locate the rows corresponding to the structure's finish type.

STEP 4 In the "Use Type" column, locate the row corresponding to the structure's use.

STEP 5 In the "Interior Finish" cell on the Property Record Card, enter the corresponding adjustments for a lack of certain interior finish components within the structure.

Locate the "Wall per LF", "Floors per SF", and "Ceil per SF" columns in ***Schedule C***. These component costs apply to 100% of the area unless otherwise stated in the interior finish narrative of each respective model included in ***Appendix D***.

The "Walls per LF" (walls per linear foot) column in the ***Schedule C***–GC Base Price Components and Adjustments table contains the ***linear*** foot rate included in the base rate for interior wall finish. This column is expressed as linear feet because it is a vertical cost.

The square foot adjustment for this linear foot rate depends on the perimeter-to-area ratio of the structure. A conversion calculation must be performed to convert the linear foot rate into a square foot rate.

To convert the linear foot rate, perform these steps:

a. Locate the perimeter-to-area ratio of the structure that you recorded in the "P.A.R." cell at the top of the Property Record Card.

b. Divide the "P.A.R." number located in Step 5(a) by 100 to arrive at a percentage.

c. Multiply the percentage obtained in Step 6 by the linear foot rate.

d. Enter the result in the "Interior Finish" cell.

The "Floors per S.F." column and the "Ceil per S.F." column represent the square foot costs included in the model's base rate for a floor finish or a ceiling finish. An absence of such a number indicates that there is no cost for these items included in the base rate.

To calculate the adjustment for an absence of either floor finish or ceiling finish in a model that includes rates for these finishes, perform this steps:

Enter the rate from the appropriate column in the "Interior Finish" cell.

STEP 6 In the "Div./Ptn. Walls" cell, enter any calculated adjustment for division walls and partition walls.

A partition wall is an interior load-bearing or non-load bearing wall that separates portions of a story. A division wall is very similar to a partition wall, but normally separates two or more different occupancy units rather than rooms within a single occupancy unit.

Most models include a square foot dollar amount for interior partitioning. This amount is identified in the "Ptns." column of the "***Schedule C–GC Base Price Components and Adjustments***" table. This square foot cost represents the typical amount of linear footage of partition walls within each specific use type. This "typical" amount of linear footage varies from use type to use type and is dependent upon specific occupancies. It is representative of the majority of buildings of its occupancy and the square foot cost is the averaged cost of all buildings of its use type and occupancy.

Through a comparison of each specific structure or section of a structure with the appropriate pricing model, you may determine that an adjustment to the base price is necessary for the amount for partitions included within the subject structure. This adjustment may be either positive or negative, depending on the model chosen when compared to the subject.

> **Example:** A 1,000 square foot utility storage basement has no division walls or partitioning within the perimeter walls. Because there is no partitioning within the basement, the entire amount under the "Ptns" column of the component and adjustment table is entered in the "~~Div. Walls/Ptns~~Div./Ptn. Walls" cell as a negative adjustment.

The additional cost of division walls in multiple unit buildings is not included in the models and must be added when the ***Schedule C***–Unit Finish Adjustment tables are not used. Further explanation of these procedures is included in the sections ***Calculating the Schedule C–Unit Cost Adjustments*** and ***Calculating the Schedule C–Unit Finish Adjustments***.

STEP 7 In the "Lighting" cell on the Property Record Card, enter the adjustment for lighting.

Locate the "Adjust Lighting" column in ***Schedule C***, which contains the range for the lighting adjustment. When selecting a lighting adjustment, keep in mind the following guidelines:

- The adjustments are based on intensity of illumination and fixture quality. An upward or downward adjustment is necessary when either or both of these variables are not normal for a particular use and quality grade. “Normal” illumination refers to the amount of illumination found in the majority of buildings of its occupancy and use type and is typically representative of buildings which meet the standard building code. “Scant” illumination refers to a building having less illumination than the majority of structures of its occupancy and use type and is typical of buildings that are below, or at the minimum, building code. “Abundant” illumination refers to a building having greater illumination than the majority of structures of its occupancy and use type and is typical of buildings that exceed the standard building code.

- For scant illumination **and** sub quality fixtures, deduct the upper range limit.
- For scant illumination **or** sub quality fixtures, deduct the lower range limit.
- For more abundant illumination or higher quality fixtures, add the lower range limit.

STEP 8 In the “Heating ~~and~~/Air Cond.” cell on the Property Record Card, enter the adjustment for heating and air conditioning.

Locate the “Htg. Vent A.C.” column in ***Schedule C***, which contains the square foot cost included in ***Schedule A*** for heating, ventilation, and air conditioning. Follow these guidelines:

- The amount shown in the “Htg. Only” column is the amount for heating included in the “Htg. Vent A.C.” column or in ***Schedule A*** when the “Htg. Vent A.C.” column is blank.
- A deduction for no heating is equivalent to the amount shown in the “Htg. Only” column.
- A deduction for no air conditioning in a model where air conditioning has been included is equal to the difference between the amount in the “Htg. Vent A.C.” column and the “Htg. Only” column.
- Air conditioning is included in the base rates for each use type that normally has air conditioning. The column marked “Add for A.C.” is included for those use types where air conditioning is not normally installed. This amount is added to the base rate when a structure has air conditioning, but the use type does not include it.

Note: There is an “Add for A.C.” rate for apartments. These rates are used only when a one-unit apartment occupies the area. When there are two or more apartments occupying the area, the air conditioning rate is described in the section ***Calculating the Schedule C—Unit Finish Adjustments***.

STEP 9 *If the structure has a sprinkler system*, enter the adjustment for a sprinkler system in the "Sprinkler" cell. An allowance for sprinkler systems is not included in any of the base rates.

The "Spk" column in ***Schedule C*** provides a number that corresponds to a sprinkler group in the Schedule's "Sprinkler" table. Each sprinkler group contains incremented total gross square footage of area per floor covered by a sprinkler system. The intersection between the group row and the square footage column contains the adjustment.

Calculating the Schedule C—Unit Cost Adjustments

The ***Schedule C—Unit Cost Adjustments*** tables provide unit costs for the most typical interior components, such as wall finish, floor finish, and partitioning. Because the base replacement cost tables for the various use models include interior finish and other features, it is necessary to make cost adjustments only when the structure's components differ significantly from the model's components. In cases where the interior construction is not typical of the selected model, the assessor may determine the costs for the interior components, and add or deduct the difference between that cost estimate and the cost included in ***Schedule C—GC Base Price Components***.

The most frequently required adjustments are for finished areas in the "UF" (unfinished) and "SF" (semi-finished) models. Normal partitioning is included in all models, but the cost of division walls in multiple unit buildings is not included and must be added. The exception is when multiple unit buildings are valued using the ***Schedule C—Unit Finish Adjustments*** tables. The cost added for division walls should include an appropriate amount for any interior finish on the division walls. A special schedule is included to calculate the square foot cost for division walls when using the general retail model for strip centers, the neighborhood shopping center model, or the regional shopping center model. The square foot rates assume all division walls are finished on both sides and there is a represented mixture of concrete block and painted drywall walls.

To record a unit cost adjustment, follow these steps:

STEP 1 Locate the "Unit Cost Adjustments" section in ***Schedule C***.

STEP 2 Locate the appropriate unit cost adjustment corresponding to the structure's:

- Wall finish per square foot of wall space. This section includes walls covered with:
  - drywall, painted
  - lath and plaster, painted
  - paneling of different types
  - tile of different types.
- Floor finish per square foot of floor space. This section includes floors covered with:

  - softwood
  - hardwood
  - maple
  - asphalt tile.
- Ceiling finish per square foot of ceiling space. This section includes ceilings covered with:
  - acoustical tile, mineral fiber or organic fiber
  - drywall
  - plaster
  - plywood paneling.
- Partitioning per square foot of wall space. This section includes partitions made of:
  - framed 2″ by 4″ wood studs, covered on one side or two sides with drywall, paneling, and so forth
  - masonry, including concrete blocks, clay tile, gypsum, and so forth
  - wood or plastic folded curtain
  - modular metal.

STEP 3 If the unit cost adjustment pertains to a portion of the structure's square footage, determine the percentage and multiply the percentage by the unit cost adjustment to arrive at a square foot rate for the entire structure.

STEP 4 Enter any unit cost adjustment in the blank space provided in the property record card's pricing ladder.

Example: A manufacturing facility has asphalt tile on 40% of the floor area. Because no floor finish is included in the manufacturing base rate, add 40% of the unit cost for asphalt tile to the entire area of the manufacturing facility to account for this variation.

Calculating the Schedule C—Unit Finish Adjustments

Schedule C—Unit Finish Adjustments provides tables of composite adjustments to use instead of using the individual component adjustments provided in the GC Base Price Components table. These adjustments are applied to the following use types:

- apartments
- motels and hotels
- strip retail centers
- neighborhood shopping centers
- regional shopping centers.

Apartments Table

In apartments and single ownership, commercial row-type structures of four or more units, the square foot cost of partitioning, built-ins, plumbing fixtures, and central air conditioning is directly related to the average size of the living unit. The “Apartments” table provides adjustments to the apartment rate from ***Schedule A*** to account for these variations.

To determine the unit finish adjustment for apartment structures, perform these steps:

STEP 1 Determine the average unit size by dividing the total square foot area to which the apartment unit base rate is to be applied by the total number of rentable units, including the units that are owner occupied:

Average ~~unit~~ Unit ~~size~~Size = Total ~~square~~ Square ~~footage~~Footage ÷ Number of ~~rentable~~ Rentable ~~units~~ Units

STEP 2 In the “Apartments” table, find the row corresponding to the structure’s average unit size. Note: rounding to the nearest square foot may be necessary.

STEP 3 Locate the adjustment value corresponding to whether or not the units have central air conditioning. Note the adjustment value.

STEP 4 Calculate the adjustment amount by multiplying the adjustment value by the number of stories in the structure:

Adjustment ~~amount~~Amount = Adjustment ~~value~~Value x Number of ~~stories~~ Stories

Enter the adjustment amount in the “Unit Finish” cell on the property record card.

Motels and Hotels Table

In motels and hotels, the square foot cost of built-ins, partitioning, and plumbing fixtures is directly related to the average size and arrangement of the guest rooms. The “Motels & Hotels” table is provided to adjust the motel/hotel base rate to account for these variations. There are three different arrangements for motels and hotels:

— “Strip” refers to units that are one unit deep and are accessed from the outside.

— “Back-to-back” refers to strip type units that are built in a back-to-back configuration.

— “Center hall” refers to units that are accessed by an interior corridor.

Note: The unit finish adjustment includes an amount for a standard complement of plumbing fixtures consisting of a three-fixture bathroom for each guest room. Use ***Schedule D—GC Plumbing*** to determine the plumbing adjustment for any deviation from the unit finish adjustment.

To determine the motel/hotel's unit finish adjustment, perform these steps:

STEP 1 Determine the average unit size by dividing the total square foot area to which the motel/hotel unit base rate applies by the total number of rentable units, including units that are owner occupied.

Average ~~unit~~ Unit ~~size~~Size = Total ~~square~~ Square ~~footage~~Footage ÷ Total ~~number~~ Number of ~~rentable~~ Rentable ~~units~~ Units

STEP 2 In the "Motels & Hotels" table, find the column corresponding to the structure's unit arrangement.

STEP 3 Find the row containing the average unit size to the nearest 25 square feet. Note the adjustment value.

STEP 4 Calculate the adjustment amount by multiplying the adjustment value by the number of stories in the structure.

Adjustment Amount = Adjustment ~~value~~Value x Number of ~~stories~~ Stories

Note: Service areas and guest registration, administration, and dining facilities are included in the total gross area calculated unless separated and priced from the "Hotel/Motel Service" base schedules in ***Schedule A***.

STEP 5 In the "Unit Finish" cell on the property record card, enter the adjustment amount.

Strip Retail Table

The "Strip Retail" table contains the adjustment rates for strip retail structures to account for division walls. The table is applicable when using the general retail model for strip centers, the neighborhood shopping center model, or the regional shopping center model. These use models do not include an amount for division walls, which form the common walls between the strip retail units.

To record the retail strip unit finish adjustment value, follow these steps:

STEP 1 Perform the following calculation to determine the appropriate value in the "Strip Retail" table's "X" column:

X = Total Square F~~f~~ootage ÷ **(**N~~n~~umber of U~~u~~nits - 1**)** **x** **(**1 ÷ Typical U~~u~~nit D~~d~~epth**)**

STEP 2 Locate the "X" value from Step 1.

STEP 3 Find the corresponding adjustment rate in the "Rate" column.

STEP 4 In the “Div./Ptn.~~s~~ Walls” cell of the property record card, enter the adjustment.

Calculating the Replacement Cost

After the adjustments based on square footage have been made, perform the following steps to calculate the structure’s replacement cost:

STEP 1 Calculate the total square foot price for the structure by adding the amount in the “Sub-total” cell below the “B.P.A.%” cell, to the values in the “Unit Finish”, “Interior Finish”, “Div./Ptn.~~s~~ Walls”, “Lighting”, “Heating/Air Cond.”, and “Sprinkler” cells.

STEP 2 Enter the total square foot price in the “S.F. Price” cell.

STEP 3 Enter the area in square feet in the “Area” cell. This area is the same as the area entered in the “S.F. Area” cell.

STEP 4 Calculate the sub-total by multiplying the square foot price from Step 2 by the area in square feet from Step 3. Rounding the result may be necessary.

Enter the result in the “Sub-Total” cell below the “Area” cell.

STEP 5 *If the structure has individual ownership of sections or living units within the structure*, the subtotal must be apportioned among the various owners. Each separate ownership must have an individual property record card showing the apportioned subtotal value. Apportionment of the subtotal will ensure that each individual ownership is being charged for those physical characteristics attributable to its particular ownership.

To apportion the building subtotal, perform the following steps:

- *If all of the units in the structure are the same size*, divide the subtotal from Step 4 by the number of units in the structure.
- *If the units in the structure are not the same size and there is no declared percentage of building ownership for each unit*, determine the apportioned subtotal value for each unit. Divide each unit’s square footage by the total square footage of all the units within the building. Then multiply the subtotal for the entire structure by the percentage for the unit to arrive at the value for the unit.

STEP 6 Use ***Schedule D—GC Plumbing*** to determine the base rate for plumbing fixtures contained within the structure or section of a structure.

Schedule D provides whole dollar values to be added per plumbing fixture. The exception to the per fixture cost is when the unit finish adjustment for apartments, hotels, and motels is used. The unit finish adjustment includes an amount for a standard complement of plumbing fixtures located within each type of unit. After the unit finish adjustment is made, it is only necessary to add or deduct the residential fixture rate per fixture for either more or fewer fixtures than the standard complement included in the unit finish adjustment.

STEP 7 In the "Special Features" cell, enter the total whole dollar value of the special features priced in the "Special Features" box.

Schedule E—Special Features provides whole dollar or square foot unit values used to calculate the whole dollar replacement cost of special features not included in the ***Schedule A*** base rates.

To apply the schedule, identify the special feature and select the most representative rate based on the descriptive criteria given. All replacement costs must be rounded. Follow these general guidelines when identifying special features and selecting a rate:

- The frame types provided for mezzanines correspond to the construction types described in ***Schedule A***. The framing options are described in ***Table 6-3*** in this chapter.
- The cost of elevators is given in hundreds of dollars and is predicated on speed in feet per minute and on capacity. ***Table 6-8*** describes the structure type options. ***Table 6-9*** shows the normal relationship between the number of stops and recommended speeds for various types of structure options.

Table 6-8. Structure Type Options

This option	Indicates
Type 1	Offices, hotels, and industrial buildings
Type 2	Apartments, nursing homes, and hospitals
Type 3	Department stores

Table 6-9. Number of Stops and Recommended Speeds

Type	Number of Stops								
	4-6	7-8	9-11	12-14	15-16	17-20	21-30	31-40	41+
1	150	200	250	300	350	500	600	800	1000
2	100	150	200	250	350	400	500	600	800
3	150	200	300	350	350	400	500	600	800

- The rates for cold storage facilities apply to the total inside surface area, which is calculated as the square foot areas of the floor and ceiling plus the product of the perimeter multiplied by the height. The floor area is included only if it has insulation. The rates account for insulation applied to only one side of the partitioning and do not include the cold storage doors.

- The rates for money vaults and record storage vaults apply to the horizontal square foot area, which is calculated as the length multiplied by the width. The rates assume an 8-feet ceiling height. The rates do not include the vault door, which is valued separately.
- The rates for the grade walls of truck wells and ramps apply to each grade wall.

STEP 8 In the "Exterior Features" cell, enter the total whole dollar value of the exterior features.

STEP 9 Calculate the total base by adding the results of Step 4 through Step 8 In the "Total Base" cell, enter the total base.

Note: If the base value applies to a section of a structure, total the values for each section to determine the total building value.

STEP 10 In the "Location Multiplier" cell, enter the location cost multiplier found in ***Table G-1*** in ***Appendix G***.

STEP 11 In the "Grade Factor" cell, enter the grade multiplier, which is applied to the total base value to account for variations in quality grade and design. Instructions for determining grade are provided in ***Appendix E***.

STEP 12 Calculate the replacement cost by multiplying the total base value obtained in Step 9 by the grade and location multiplier.

Replacement C~~c~~ost = Total B~~b~~ase V~~v~~alue **x** Grade M~~m~~ultiplier **x** Location M~~m~~ultiplier

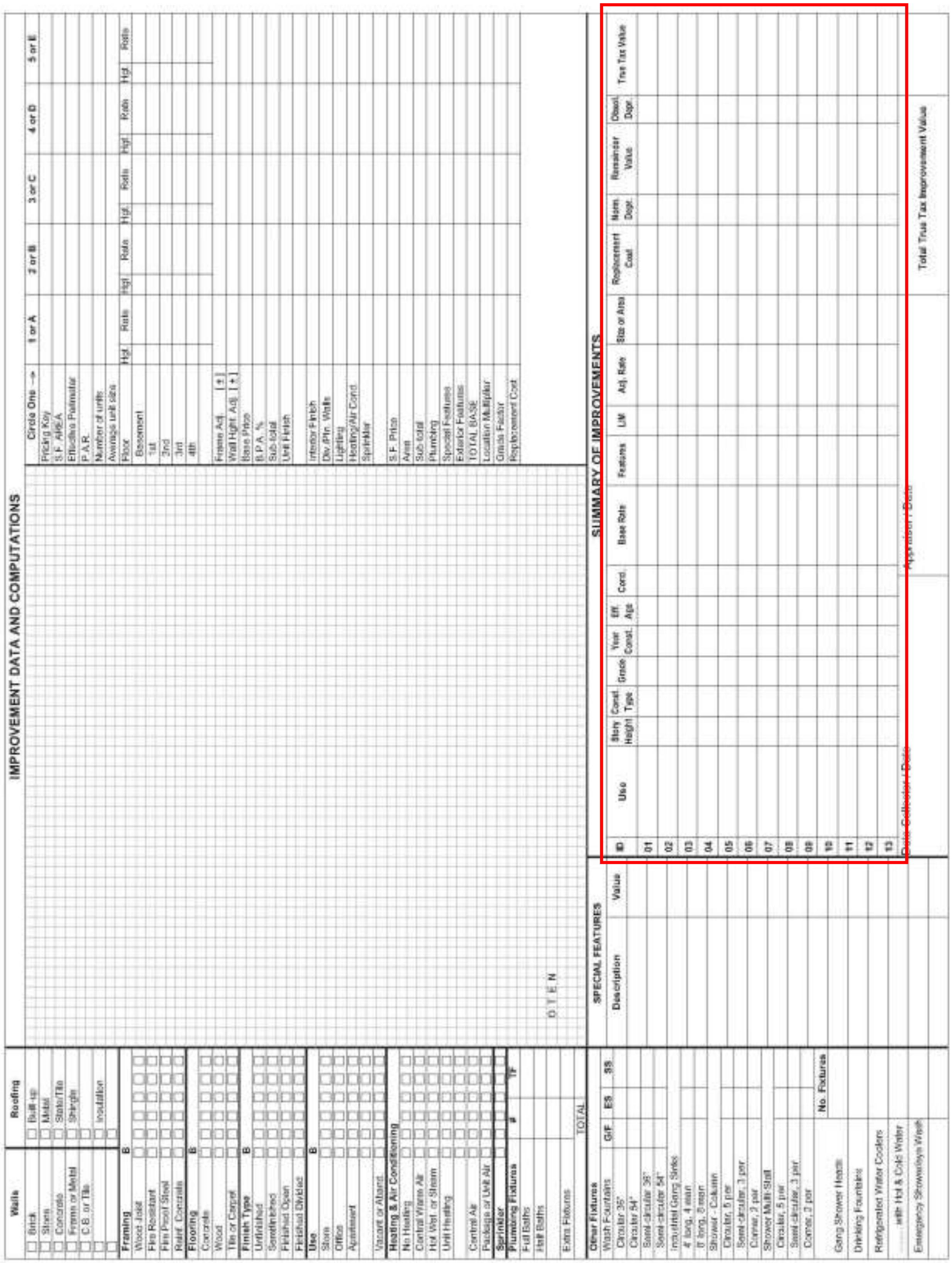
Round the replacement cost to the nearest $10 and enter it in the "Replacement Cost" cell.

Task 4—Completing the Summary of Improvements Section

The "Summary of Improvements" section of the property record card, shown in ***Figure 6-16***, provides space to record information about:

- the general structure
- commercial and industrial yard structures

This section describes how to complete the "Summary of Improvements" section for a structure.



IMPROVEMENT DATA AND COMPUTATIONS

Walls: Brick, Stone, Concrete, Frame or Metal, C.B. or Tile

Roofing: Built-up, Metal, Slate/Tile, Shingle, Insulation

Framing (B): Wood Joist, Fire Resistant, Fire Proof Steel, Reinf. Concrete

Flooring (B): Concrete, Wood, Tile or Carpet

Finish Type (B): Unfinished, Semifinished, Finished Open, Finished Divided

Use (B): Store, Office, Apartment, Vacant or Aband.

Heating & Air Conditioning: No Heating, Central Warm Air, Hot Wat. or Steam, Unit Heating, Central Air, Package or Unit Air

Sprinkler

Plumbing Fixtures (# / TF): Full Baths, Half Baths, Extra Fixtures, TOTAL

Other Fixtures (G/F, ES, SS): Wash Fountains, Circular 36", Circular 54", Semi-circular 36", Semi-circular 54", Industrial Gang Sinks, 4' long, 4 man, 8' long, 8 man, Shower - Column, Circular, 5 per, Semi-circular, 3 per, Corner, 2 per, Shower Multi-Stall, Circular, 5 per, Semi-circular, 3 per, Corner, 2 per, No. Fixtures, Gang Shower Heads, Drinking Fountains, Refrigerated Water Coolers, with Hot & Cold Water, Emergency Shower/Eye Wash

NOTES

Circle One →: 1 or A, 2 or B, 3 or C, 4 or D, 5 or E (Hgt, Rate)

Pricing Key, S.F. AREA, Effective Perimeter, P.A.R., Number of units, Average unit size, Floor, Basement, 1st, 2nd, 3rd, 4th, Frame Adj. [±], Wall Hght. Adj. [+], Base Price, B.P.A. %, Sub-total, Unit Finish, Interior Finish, Div./Ptn. Walls, Lighting, Heating/Air Cond., Sprinkler, S.F. Price, Area, Sub-total, Plumbing, Special Features, Exterior Features, TOTAL BASE, Location Multiplier, Grade Factor, Replacement Cost

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	UM	Adj. Rate	Size or Area	Replacement Cost	Norm. Depr.	Remainder Value	Obsol. Depr.	True Tax Value
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	
10																	
11																	
12																	
13																	

Data Collector / Date

Appraiser / Date

Total True Tax Improvement Value

Figure 6-16. Summary of Improvements Section

To complete the "Summary of Improvements" section for the structure, perform these steps:

STEP 1 In the "Story Height" column, enter the story height of the structure as it appears in the sketch grid.

STEP 2 In the "Const. Type" column, enter the type of exterior wall construction used for the structure.

STEP 3 In the "Grade" column, enter the grade determined in **Task 3—Calculating the Replacement Cost for a Structure** in this chapter.

STEP 4 In the "Year Const." column, indicate when the structure was originally constructed. Follow these guidelines:

- *If you are sure of the date*, enter just the date, for example "1990".
- *If you (the assessing official) must estimate the date*, enter the date followed by a question mark, for example "1985?".
- *If the owner estimates the date*, enter the date followed by "+/-", for example "1945+/-".
- Enter "Old" to indicate construction prior to 1935:

STEP 5 *If the structure's age has been altered through additions*; enter the weighted age in the "Eff Age" column. This representative age becomes the age for which normal depreciation is calculated. When entering a weighted age be sure to note the year constructed in the memorandum section of the property record card.

STEP 6 In the "Cond." column, enter the assigned code for the condition of the structure relative to its age. ***Table 6-10*** describes the codes for this column. For information on assigning the condition code, see ***Appendix F***.

Table 6-10. Condition Codes

Code	Indicated Depreciation
Excellent	All items that can or should normally be repaired or refinished have recently been corrected. In this condition, there is usually new roofing, new paint, state-of-the-art components; all of the major short-lived items are in like-new condition.
Good	There is neither any obvious sign of needed maintenance nor is everything totally new. Generally, all items are all well maintained and many of them have been overhauled and repaired as they have shown signs of wear. There is very little deterioration or obsolescence effort evident and there is a high degree of functional utility in the structure.
Average	There is some evidence of deferred maintenance, along with normal obsolescence for the structure's age. There are a few repairs needed, some refurbishing and some upgrading as well. Most of the major components, such as the furnace, plumbing, wiring, etc. are still functioning and contributing toward the utilization of the structure. The condition of this property is typical compared to other properties of the same general age.
Fair	This condition is best described as badly worn. There is a substantial amount of repair needed to restore the facility. Many items need refurbishing, overhauling, or are inadequate for the demands of today's market. There may be inadequate utilities such as wiring that is inappropriate or too light-duty for the demands of today's structures; deferred maintenance is present.
Poor	A structure that is almost worn out. It needs a substantial amount of repair, maintenance and upgrading on things such as roof structure, plumbing and utilities. This condition is typified by needing a great deal of maintenance, which has not been conducted, and/or by abuse of the property. This property is in need of a major renovation and modernization. It is probable that a change in use or reuse of this structure is in its near future. This property is nearly at the end of its actual utilization.
Very Poor	Conditions approach unsoundness, extremely undesirable, and barely useable. The building is unsound and unfit for use or there is extremely limited value in use approaching abandonment. The structure needs major reconstruction to have any affect on any economic value.

STEP 7 In the "Replacement Cost" cell, enter the replacement cost calculated for the structure (also entered in the "Replacement Cost" cell in Step 11 of the section ***Calculating the Replacement Cost*** in this chapter), then round the number.

STEP 8 Determine the structure's effective age based upon it~~'~~s condition classification from ***Table F-2*** in ***Appendix F***.

STEP 9 Determine the total life expectancy for the improvement from ***Table F-3*** (a, b, c, or d) depending on the selection of schedules, in ***Appendix F***.

STEP 10 ~~-~~In the "Normal Depr." column, enter the percentage of reduction in value due to normal depreciation determined from ***Table F-4*** in ***Appendix F***. Information about determining normal depreciation for a general commercial or industrial structure is provided in ***Appendix F***.

STEP 11 Determine the remainder value:

a. Subtract the percentage determined for normal depreciation (entered in the "Normal Depr." column) from 100%.

b. Divide the result obtained in Step 11(a) by 100 to arrive at a multiplier.

c. Calculate the remainder value by multiplying the replacement cost of the structure (entered in the "Replacement Cost" column) by the multiplier obtained in Step 11(b):

Remainder V~~v~~alue = Replacement C~~c~~ost x Multiplier O~~o~~btained in Step 11(b)

d. Round the remainder value and enter it in the "Remainder Value" column.

Example: The replacement cost of a structure is $80,000. The normal depreciation percentage for the structure is 30%. The remainder value is:

100% – 30% = 70% ÷ 100 = .70 x $80,000 = $56,000

~~100% – 30% = 70% ÷ 100 = .70 x $80,000 = $56,000.~~

STEP 12 If necessary, in the "Obsol. Depr." column, enter the percentage of reduction in value due to abnormal functional and economic causes. Information about evaluating obsolescence depreciation for a general commercial or industrial structure is provided in ***Appendix F***.

STEP 13 Determine the true tax value:

a. *If **no** obsolescence depreciation applies to the structure*, enter the remainder value, rounded to the nearest $100, (entered in the "Remainder Value" column) in the "True Tax Value" column, and skip Step 13(b) and Step 13(c).

If obsolescence depreciation applies to the structure, determine the percent of obsolescence by dividing the dollar amount of abnormal obsolescence by the remainder value to get an abnormal obsolescence depreciation percentage. Enter this percentage in the “Obsol. Depr.” column of the property record card.

b. Subtract the percentage determined for abnormal obsolescence depreciation (entered in the “Obsol. Dep.” column) from 100%.

c. Divide the result obtained in Step 13(b) by 100 to arrive at a multiplier.

d. Calculate the true tax value by multiplying the remainder value of the structure (entered in the “Remainder Value” column) by the multiplier obtained in Step 13(c):

True T~~t~~ax V~~v~~alue = Remainder V~~v~~alue **x** Multiplier O~~o~~btained in Step 13(c)

e. Round the true tax value to the nearest $100 and enter it in the “True Tax Value” column.

Example: The remainder value of a structure is $56,000. The abnormal obsolescence depreciation percentage for the structure is 20%. The true tax value is:

100% – 20% = 80% ÷ 100 = .80 **x** $56,000 = $44,800

~~100% – 20% = 80% ÷ 100 = .80 x $56,000 = $44,800.~~

STEP 14 *If the property has yard structures or other improvements to describe*, follow the instructions in Chapter 7 to complete the “Summary of Improvements” section.

If the property has no other structures or improvements to describe, sum the entries in the “True Tax Value” column and enter the total in the “Total True Tax Improvement Value” cell.

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Contents

Tables

Figures

This chapter describes the process used for valuing commercial and industrial yard structures. This chapter first presents an overview of the valuation process. The rest of this chapter provides step-by-step instructions for calculating and entering information about commercial and industrial yard structures in the "Summary of Improvements" section of the property record card. The necessary cost schedules are included in ***Appendix G*** and depreciation tables are included in ***Appendix F***.

Commercial and industrial yard structures included in the following categories:

- fencing
- masonry walls
- paving
- guard rails
- railroad siding
- retaining walls
- bulkhead piling
- commercial boat docking facilities
- bridges
- dry and liquid storage tanks and bins
- standpipes and surface reservoirs
- earth dikes
- grain elevators and supporting structures
- stacks and incinerators
- drive-in theaters
- chimneys
- greenhouses
- car wash structures
- golf courses
- athletic facilities and surfaces
- mobile home parks
- swimming pools
- riverboats
- commercial solar heating and cooling systems
- geothermal heating and cooling systems
- landfill liners

Overview of the Valuation Process

The valuation of commercial and industrial yard structures involves the application of various models to represent typical types of construction. Each model assumes that there are certain elements of construction that can be defined as specifications. These specifications create the average or “C” grade. Unlike commercial and industrial buildings that are constructed with a vast range of quality materials and design, the quality of construction materials and design of yard structures is more consistent. Because of the variety of construction materials in commercial and industrial yard structures, some of the schedules use adjustments rather than grade classification to account for the variations in the quality of construction materials.

The commercial and industrial pricing schedules for yard structures consist of either whole dollar or square foot unit values. These structures generally are detached from the commercial or industrial building and are recorded and priced separately in the “Summary of Improvements” section of the property record card.

To use the commercial and industrial pricing schedules, identify the type of structure and select the most representative price based on the description given. The rates given for certain items, such as running tracks, golf courses, drive-in theaters, and mobile home parks, include both unit or component costs and typical installation costs.

Space is provided to itemize all buildings and yard structures in the “Summary of Improvements” section of the commercial and industrial property record card. If more space is needed, use additional cards.

When collecting data about a yard structure, review the appropriate pricing schedule to determine the features that are included in the model. Some of the schedules, such as for golf courses and mobile home parks, have detailed cost, and condition descriptions. Review these schedules carefully before beginning the assessment.

Completing a Property Record Card

The valuation of commercial and industrial yard structures is recorded in the "Summary of Improvements" section of the property record card, shown in ***Figure 7-1***. Space is provided in the table to itemize each yard structure. Each row corresponds to one particular yard structure. The true tax value of all of the yard structures is totaled at the bottom of the of the "Summary of Improvements" section.

Note: If the property has more yard structures than there are rows in this section of the property record card, use an additional card (or cards) to describe those yard structures.

The steps for completing the property record card for commercial and industrial yard structures are grouped into the following tasks, described in the sections below:

- **Task 1**—Record information about the yard structure.
- **Task 2**—Determine the base rate for the yard structure.
- **Task 3**—Determine the adjusted base rate and replacement cost for the yard structure.
- **Task 4**—Calculate the remainder value of the yard structure.
- **Task 5**—Calculate the true tax value of the yard structure.
- **Task 6**—After performing Task 1 through Task 5 for each yard structure on the property, calculate the total true tax value for the property.

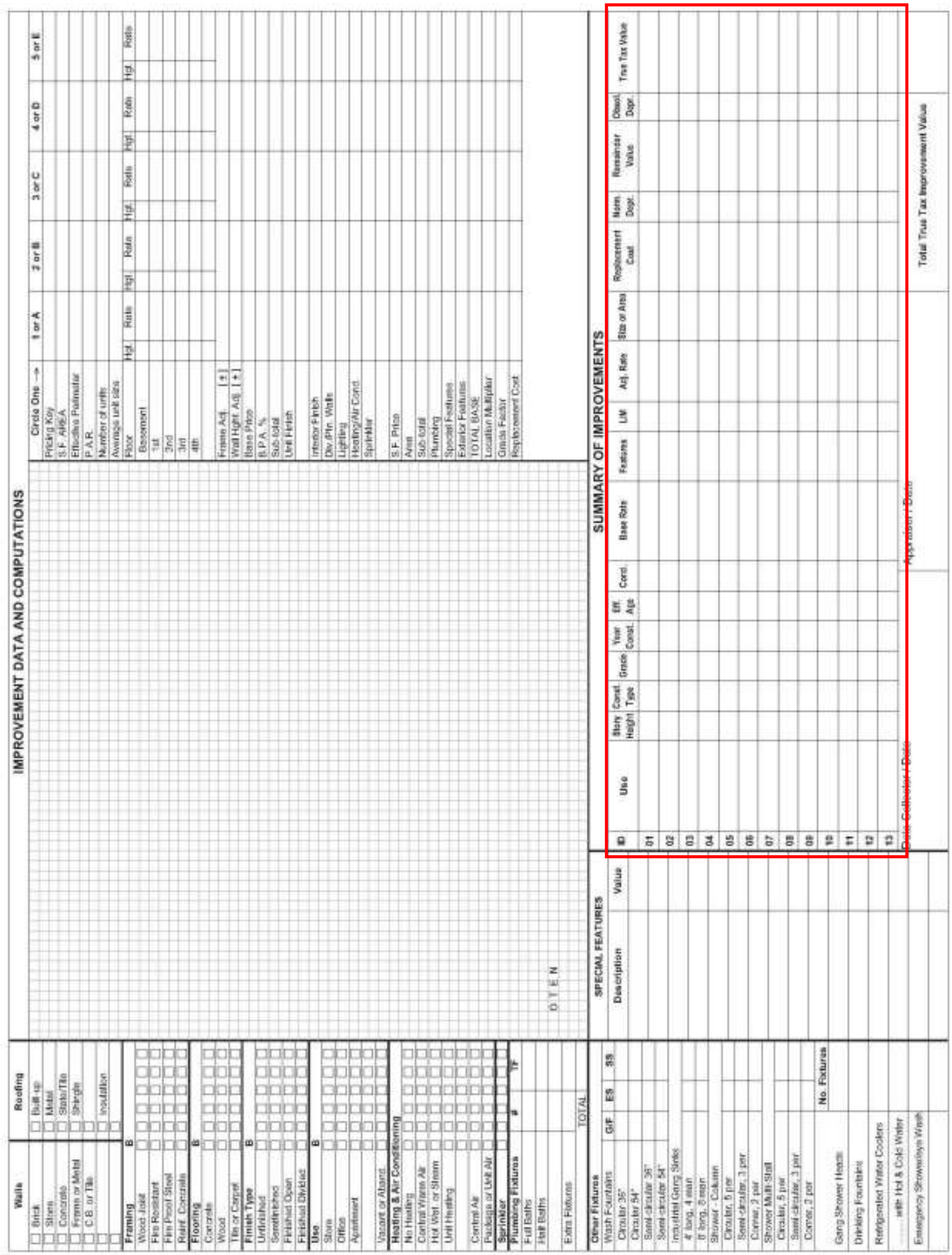


Figure 7-1. Summary of Improvements Section

Task 1—Recording Information

In this task, you provide descriptive information about the characteristics of the yard structure. The shading in ***Figure 7-2*** indicates the columns of the “Summary of Improvements” table that you complete in this task.

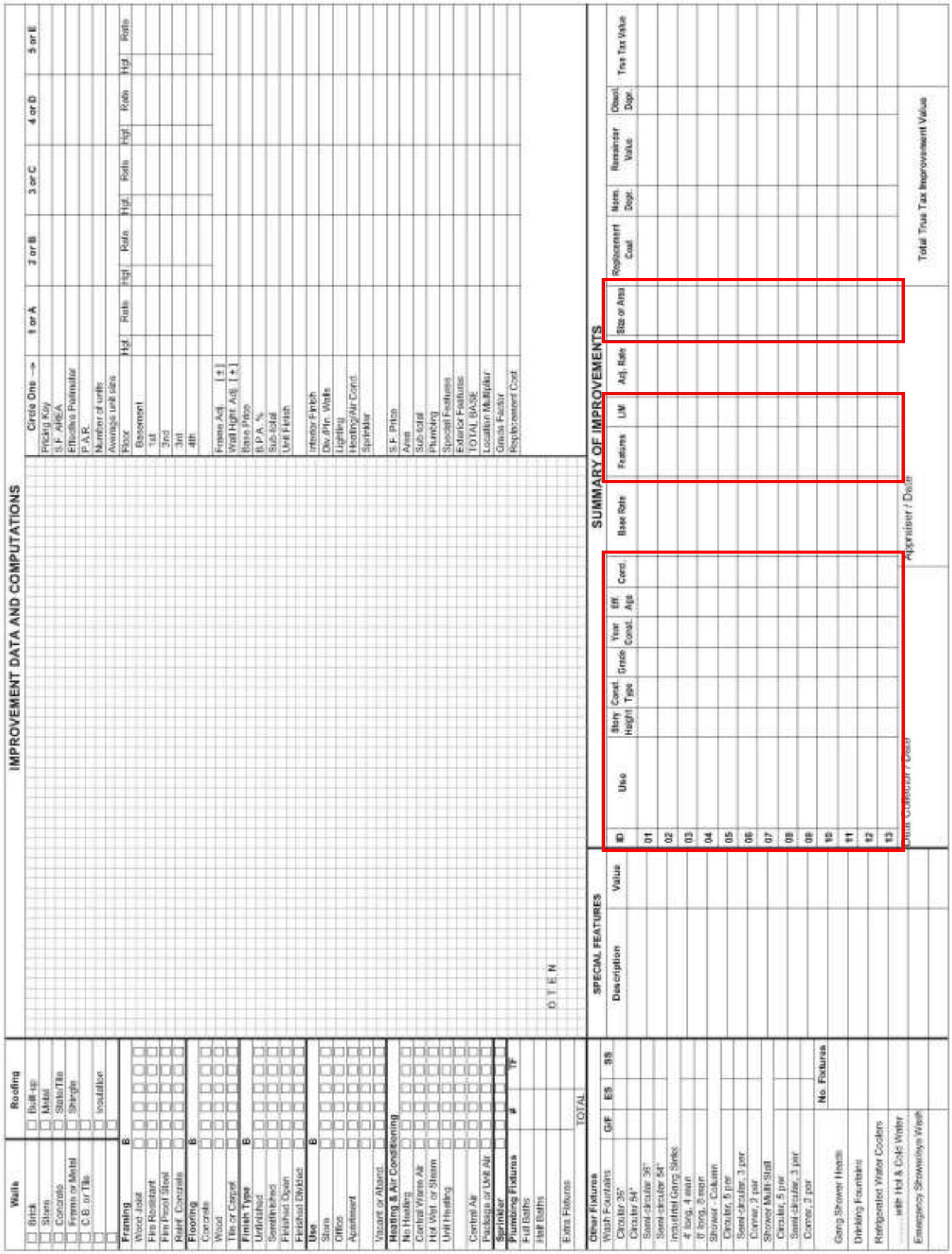


Figure 7-2. Columns Completed in Task 1

To record information about the structure, perform these steps:

STEP 1 In the "ID" column, select an identification number for each individual yard structure. Record the information about the yard structure in the row corresponding to this identification number. Also, use this number to identify the location of each yard structure relative to the structure or structures in the sketch area.

STEP 2 In the "Use" column, enter the present and predominant use of the yard structure.

STEP 3 *If the structure is a yard building*, in the "Story Height" column, enter the height of the structure in feet, measured from the floor to the eave.

STEP 4 In the "Const. Type" column, enter the type of construction material used to construct the yard structure.

STEP 5 In the "Grade" column, enter the grade for the yard structure. Information about determining the grade for a yard structure is provided in the section ***Assigning Grades to Commercial Yard Structures*** in ***Appendix E***.

STEP 6 In the "Year Const." column, indicate when the yard structure was originally constructed. Follow these guidelines:

- If you are sure of the date, enter just the date, for example "1949".
- If you (the assessor) must estimate the date, enter the date followed by a question mark, for example "1945?".
- If the owner estimates the date, enter the date followed by "+/–", for example "1945+/–".
- Enter "Old" to indicate construction prior to 1928. If the structure is depreciated from the commercial swimming pool depreciation table enter "Old" if constructed prior to 1974.

STEP 7 *Swimming pools only. If the pool shows excessive physical deterioration for its age and you have subtracted six (6) years from its construction year,* you must enter the new year in the "Eff. Age" column. This is explained in the section "***Using the Swimming Pools Depreciation Tables Appendix F***".

If the pool's remaining economic life has not been altered, leave this column blank.

STEP 8 In the "Cond." column, enter the code indicating the assigned condition of the yard structure relative to its age. ***Table 7-1*** describes the codes for this column.

Note: Instructions for determining the condition code for a yard structure are provided in ***Appendix F***.

Table 7-1. Condition Codes

Code	Indicated Depreciation
Excellent	The structure is in like-new physical condition and has been well maintained. It has been modernized and updated and suffers from no inutilities.
Good	The structure has been maintained in better physical condition than the majority of structures of its age and suffers from no deferred maintenance. It offers more amenities and has better utility than the majority of the structures of its design.
Average	The structure has been maintained like and is in the typical physical condition of the majority of structures of its age. It offers the same utility as the majority of the structures of its design.
Fair	The structure suffers from minor deferred maintenance and demonstrates less physical maintenance than the majority of structures of its age. It suffers from minor inutilities in that it lacks an amenity that the majority of structures of its design offer.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its design offer. However, it is still being put to some use in the farming operation.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is near the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer. Poor location for the type of structure.

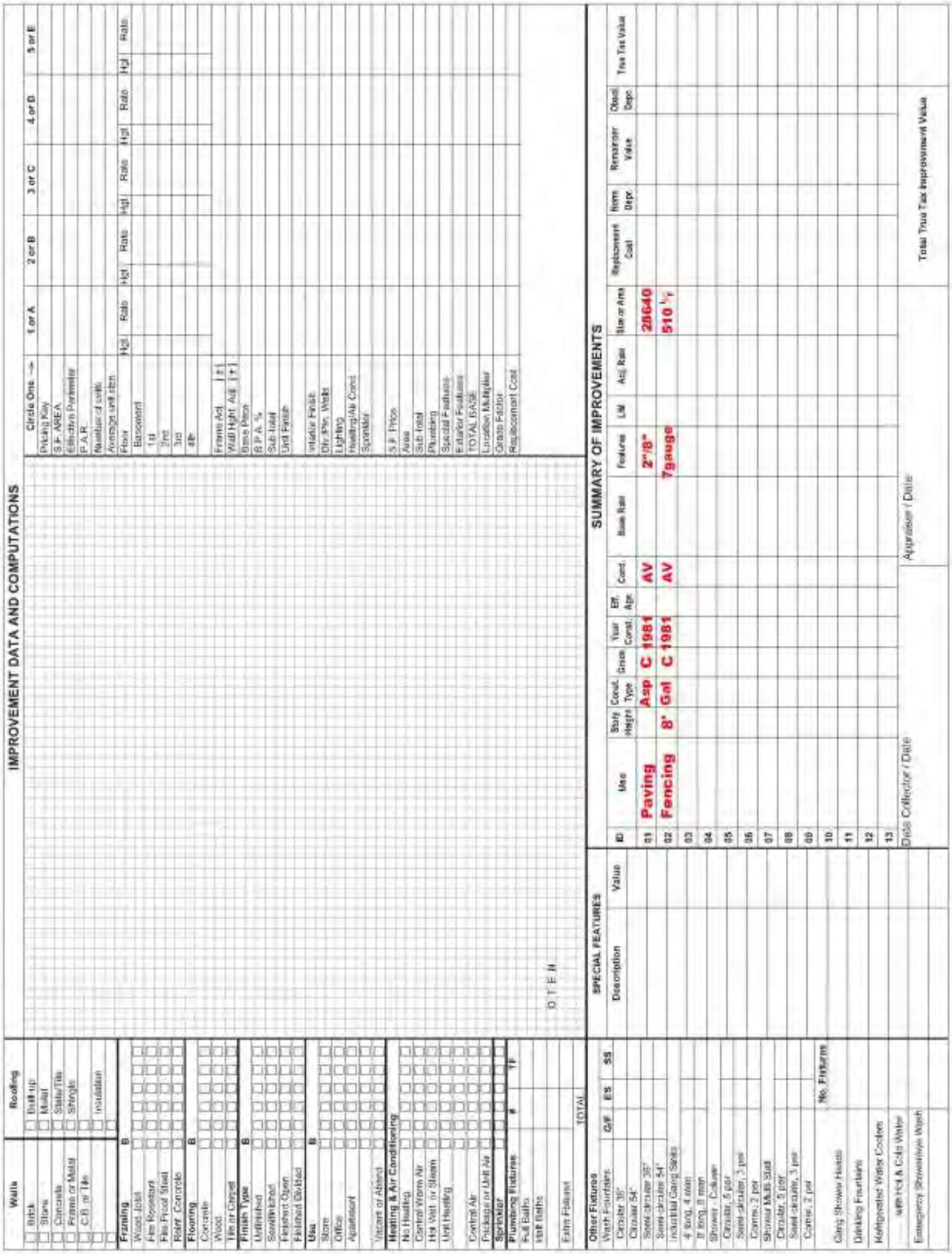
STEP 10 In the "Features" column, enter any pertinent information for any features that alter the base rate for the yard structure.

STEP 11 —In the "L/M" column, enter the location cost multiplier for your county, which can be found in ***Table G-1*** in ***Appendix G***.

STEP 12 ———In the "Size or Area" column, enter the size or area of the yard structure. "Size" refers to the dimensions of the yard structure, such as length and width or diameter and height. "Area" refers to the square foot ground area of the yard structure.

To determine whether to enter the size (and if size is used, exactly which dimensions) or the area of the yard structure, refer to the cost schedule for the yard structure type. Measure the dimensions and use the same units of measurement as the appropriate cost schedule uses.

Example: In ***Figure 7-3***, ~~A~~ a 28,640 square foot, grade C parking lot is paved with 2 (two) inches of asphalt on an 8-inch base. The lot was built in 1981and is in average condition. The lot is surrounded on three sides by a grade C, 8-foot galvanized chain link fence, with a gauge size of 7. There is 510 linear feet of fencing.



IMPROVEMENT DATA AND COMPUTATIONS

SPECIAL FEATURES

SUMMARY OF IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	LM	Adj. Rate	Size or Area	Replacement Cost	Norm Depr.	Remainder Value	Obsol Depr.	True Tax Value
01	Paving		Asp	C	1981		AV		2"/8"			28640					
02	Fencing	8'	Gal	C	1981		AV		7gauge			510 lf					
03																	
04																	
05																	
06																	
07																	
08																	
09																	
10																	
11																	
12																	
13																	

Data Collector / Date — Appraiser / Date — Total True Tax Improvement Value

Figure 7-3. Summary of Improvements Example

Task 2—Determining the Base Rate

You determine the base rate for the structure using the cost schedule for the appropriate type of structure. The cost schedules for commercial and industrial yard structures contain a variety of methods for determining the base rate for specific types of yard structures. These methods include square foot rates, linear foot rates, bushel capacity rates, site rates, cubic foot rates, golf course (per hole) rates, person rates, wall surface rates, and whole dollar unit values. The cost schedules are provided in ***Appendix G***.

The cost schedules are based on a "C" grade unless otherwise specified. Each schedule includes base rates for the typical range of size or configuration for the type of yard structure.

The shading in ***Figure 7-4*** indicates the columns of the "Summary of Improvements" section that you complete when determining the base rate for a structure.

Figure 7-4. Columns Completed in Task 2

Using Area (Square Footage)

The cost schedules that use a square foot base rate are separated into two distinct types:

TYPE 1 Flat square foot rate dependent on the construction material:

- paving
- commercial dock facilities (piers)
- artificial turf
- running tracks
- car wash buildings (drive through)
- landfill liners
- bridges

TYPE 2 Variable square foot rates dependent on the size of the structure and type of construction materials:

- greenhouses
- swimming pools
- commercial solar heating and cooling systems.

Type 1 Structures Based on Square Foot Rate

To determine the base rate for a Type 1 yard structure based on a square foot rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the type of construction material that best represents the subject yard structure.

STEP 3 In the "Base Rate" cell in the "Summary of Improvements" section, enter the base rate.

Note: There should be no need to interpolate or extrapolate rates using these schedules.

Type 2 Structures Based on Square Foot Rate

To determine the base rate for a Type 2 yard structure based on a square foot rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the row containing the construction material that best represents the subject yard structure.

STEP 3 In the "Area" column of the selected cost schedule, locate the row corresponding to the square footage of the yard structure which you entered in the "Size and Area" column in the "Summary of Improvements" section.

- *If the area of the structure is within the square foot parameters of the cost schedule*, use the area in the cost schedule that is nearest to the actual square footage of the structure to determine the base rate.
- *If the area of the structure is less than the smallest square foot area of the cost schedule,* use the area in the smallest square foot area column, to determine the base rate.
- *If the area of the structure is larger than the largest square foot area of the cost schedul*e, use the rate identified in the "Over" or "Area+" column.

STEP 4 Find the intersection of the selected row (area in square feet) and the appropriate column. In the "Summary of Improvements" section, enter the number that you find in the "Base Rate" column.

Note: The column headings vary in the cost schedules. Often there are separate columns for different types of construction. The various Type 1 and Type 2 cost schedules are included in ***Appendix G***.

Using Whole Dollar Amounts

The cost schedules that use a whole dollar amount are separated into four distinct types:

TYPE 1 Whole dollar amount is dependent on the storage capacity of the yard structure:

- oil storage tanks
- welded steel pressure tanks
- wood water storage
- standpipes and surface reservoirs
- bulk storage tanks
- fuel oil tanks.

TYPE 2 Whole dollar amount is dependent on the diameter and height of the yard structure:

- commercial docking facilities (cells)
- dry storage bins
- brick and concrete stacks.

TYPE 3 Whole dollar amount is dependent on the capacity and height of the yard structure:

- elevated steel tanks

- towers.

TYPE 4 Whole dollar amount is dependent on specific attributes other than those named above:

- incinerators (pounds per hour)
- do-it-yourself car wash buildings (per item)
- shuffleboard courts (per court)
- small boat marina (per slip)
- geothermal heating and cooling systems (per ton)
- tennis courts (per court)
- paddle tennis courts (per set)

Type 1 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 1 yard structure based on a whole dollar rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the capacity on the schedule that best represents the capacity of the subject yard structure. Note the corresponding whole dollar amount.

STEP 3 In the "Base Rate" cell in the "Summary of Improvements" section, enter the whole dollar amount determined in Step 2.

- *If the capacity of the yard structure lies within the parameters of the cost tables,* use the capacity in the cost schedules that is nearest to the actual capacity of the structure to determine the whole dollar amount.
- *If the capacity of the yard structure is larger than the largest capacity or smaller than the smallest capacity provided in the cost schedules,* extrapolate to calculate the amount to add to or subtract from the whole dollar amount. When extrapolating, follow these guidelines:

  (a) For a capacity larger than the capacity listed on the schedule, calculate the difference between the amount of the largest capacity and the amount of the next largest capacity. Add this difference to the amount of the largest capacity for each increment of capacity difference between the largest and the next largest capacity.

  (b) For a capacity smaller than the capacity listed on the schedule, calculate the difference between the amount of the smallest capacity and the amount of the next smallest capacity. Subtract this difference from the amount of the smallest capacity for each increment of capacity difference between the smallest and the next smallest capacity.

Example 1—Size within the ranges: A fuel oil tank has a capacity of 6,000 gallons. Perform these steps:

(1) Locate the fuel oil tank schedule.

(2) The capacity of the subject structure is closest to 5,000 gallons.

(3) In the "Base Rate" cell, enter the whole dollar amount for a 5,000 gallon capacity tank.

Example 2—Size outside the ranges: A bolted steel oil storage tank has a capacity of 18,000 barrels of oil. Perform these steps:

(1) Locate the oil storage tank schedule for the bolted steel type.

(2) The capacity increment difference between the 15,000 barrel capacity and the 10,000 barrel capacity is 5,000 barrels. To determine the whole dollar amount for the oil storage tank, find the whole dollar amount difference between these two sizes and add one 5,000 barrel increment to the 15,000 barrel whole dollar amount.

(3) In the "Base Rate" cell, enter the whole dollar amount determined in Step 2.

Note: The 18,000 barrel is rounded to the nearest capacity increment—20,000 barrels.

Type 2 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 2 yard structure based on whole dollar rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the row containing the height or diameter, depending on the schedule. Locate the column that best describes the yard structure. Note the whole dollar amount at the intersection of the selected row and column.

STEP 3 In the "Base Rate" cell in the "Summary of Improvements" section, enter the whole dollar amount from Step 2.

- *If the diameter and height of a subject yard structure is between the parameters of the cost schedules,* use the variables that are the nearest to the actual diameter and height of the structure to determine the whole dollar amount.
- *If the diameter and height of the yard structure is larger than the largest diameter and height, or smaller than the smallest diameter and height provided in the cost schedule,* extrapolate to

calculate the amount to add to or subtract from the whole dollar amount. When extrapolating, follow these guidelines:

(a) For a diameter and height larger than those listed on the schedule, calculate the difference between the amount of the largest dimension in the first column and the amount of the next largest dimension in the first column. Add this difference to the amount of the largest dimension for each increment of dimension difference between the largest and the next largest dimension in the first column. Repeat the procedure to calculate the whole dollar amounts in the second column.

(b) For a diameter and height smaller than those listed on the schedule, calculate the difference between the amount of the smallest dimension in the first column and the amount of the next smallest dimension in the first column. Subtract this difference from the amount of the smallest dimension for each increment of dimension difference between the smallest and the next smallest dimension in the first column. Repeat the procedure to calculate the whole dollar amounts in the second column.

Example 1—Size within the ranges: A cylindrical dry storage bin has a diameter of 15 feet and a height of 50 feet. Perform these steps:

(1) Locate the cylindrical type dry storage bin schedule.

(2) Find the diameter of 15 feet in the first column. (The diameter is within the ranges of the first column, so the closest diameter in the schedule is chosen.)

(3) Locate the height of 48 feet. (The height of 50 feet is within the range of the schedule heights, so the closest height in the schedule is chosen.)

(4) In the "Base Rate" cell, enter the whole dollar amount for a height of 48 feet.

Example 2—Size outside the ranges: A concrete stack is 300 feet tall with a diameter of 16 feet. Perform these steps:

(1) Locate the concrete stack schedule.

(2) In the first column, determine that the tallest stack is 250 feet and that the stack heights are in increments of 25 feet (300′ - 250′ = 50′ ÷ 25′ = 2 increments of 25′).

(3) Determine the whole dollar amount difference between the 16′ diameter value for 225′ and the 16′ diameter value for 250′.

(4) Add two increments of the difference determined in Step 3 to the whole dollar amount in the schedule for the 16′ diameter by 250′ high stack.

(5) In the "Base Rate" cell in the "Summary of Improvements" section, enter the whole dollar amount determined in Step 4.

Type 3 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 3 yard structure based on a whole dollar rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the row containing the capacity that best represents the capacity of the yard structure.

STEP 3 Locate the column containing the height that best represents the height of the yard structure. At the intersection of the selected row and column, note the whole dollar amount.

STEP 4 In the "Base Rate" cell in the "Summary of Improvements" section, enter the whole dollar amount determined in Step 3.

- *If the capacity and height of a yard structure are within the parameters of the cost schedules,* use the values that are nearest to the actual capacity and height of the structure to determine the whole dollar amount.

Note: The extrapolation procedures for a Type 3 yard structure are the same as the procedures for a Type 2 yard structure.

Type 4 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 4 yard structure based on a whole dollar rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the Type 4 attribute, such as incinerator, applicable to the specific schedule and compare the subject to this attribute.

STEP 3 Locate the type of construction material applicable to the subject. Note the whole dollar amount.

STEP 4 In the "Base Rate" cell in the "Summary of Improvements" section, enter the whole dollar amount, determined in Step 3.

Note: Interpolation or extrapolation is not necessary in Type 4 schedules. Specific additional amounts are identified in the pertinent schedules.

Using Linear Feet

The cost schedules that use a linear feet base rate are:

- fencing
- masonry walls
- guardrails
- railroad siding
- retaining walls
- bulkhead piling.

To determine the base rate for a yard structure that uses a linear feet base rate, perform these steps:

STEP 1 Based on the type of yard structure, locate the appropriate cost schedule.

STEP 2 Locate the type of construction material that best represents the yard structure.

STEP 3 In the "Base Rate" cell in the "Summary of Improvements" section, enter the base rate per linear foot.

- *If the construction material is within the parameters of the cost schedules,* use the type in the cost schedule that is nearest to the actual structure type to determine the linear foot rate.
- *If the construction material is larger than the largest type or smaller than the smallest type provided in the cost schedule,* extrapolate to calculate the amount to add to or subtract from the rates. The extrapolation procedure for these situations is the same as those used in the section ***Using Area (Square Footage)*** in this chapter.

Using Other Methods

The cost schedules that use other methods of determining the base rates are:

- grain elevators (bushels)
- steel tanks and corrugated metal bins (bushels)
- horizontal storage (bushels)
- earth dikes (cubic feet)
- steel stacks (per foot of height)
- chimneys (per foot of height)
- ~~golf courses (per hole)~~
- miniature golf courses (per hole)
- bleachers (square foot or seating)
- golf driving range (per station – if not part of a golf enterprise)

- sports stadium (per seating)
- mobile home parks (per site)
- drive-in theaters (per space)
- gaming riverboats (per person capacity).

The cost schedules for these structures are diverse and specific criteria are described to determine the base rate for each type. The steps to determine the base rate are similar to those described earlier in this chapter.

- *If the yard structure is within the parameters of the cost schedule,* use the type in the cost schedule that is nearest to the actual type of structure to determine the base rate.

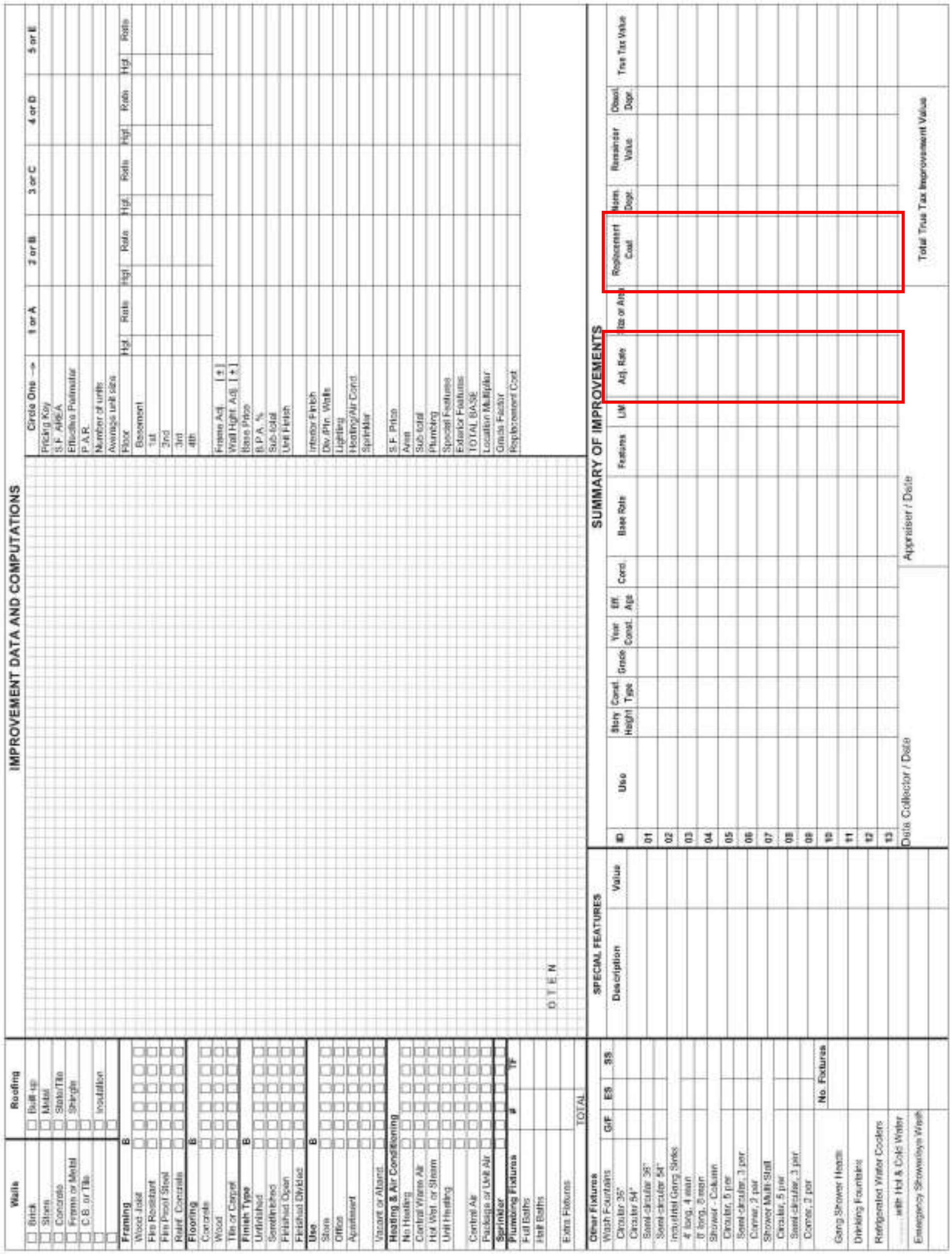
Many of the cost schedules indicate a rate that is to be used if the type exceeds the limits of the cost schedule. There are no extrapolation procedures necessary for larger sizes in these types of cost schedules. Extrapolation for sizes that are smaller can be determined by following the guidelines provided earlier in this chapter.

For the cost schedules where rates have not been established for larger sizes, extrapolation can be performed by following the guidelines discussed earlier in this chapter.

Task 3—Determining the Adjusted Base Rate and Replacement Cost

The adjusted base rate for the yard structure is the base rate adjusted to take into account any relevant features identified for the structure, an adjustment for location, and the grade factor percentage. If the yard structure uses a cost schedule based on a factor other than a whole dollar amount, the replacement cost for the structure is its specified unit type, such as area, linear feet, bushels and so forth, multiplied by the adjusted base rate. If the structure uses a cost schedule based on whole dollar amounts, the replacement cost is the same as the adjusted base rate (rounded to the nearest $10).

The shading in ***Figure 7-5*** indicates the columns of the “Summary of Improvements” section that you complete when determining the adjusted base rate and replacement cost of the yard structure.



IMPROVEMENT DATA AND COMPUTATIONS

Circle One →	1 or A	2 or B	3 or C	4 or D	5 or E
Pricing Key					
S.F. AREA					
Effective Perimeter					
P.A.R.					
Number of units					
Average unit size					
Floor	Hgt. Rate	Hgt. Rate	Hgt. Rate	Hgt. Rate	Hgt. Rate
Basement					
1st					
2nd					
3rd					
4th					
Frame Adj. (±)					
Wall Hght. Adj. (±)					
Base Price					
B.P.A. %					
Sub-total					
Unit Finish					
Interior Finish					
Div./Ptn. Walls					
Lighting					
Heating/Air Cond.					
Sprinkler					
S.F. Price					
Area					
Sub-total					
Plumbing					
Special Features					
Exterior Features					
TOTAL BASE					
Location Multiplier					
Grade Factor					
Replacement Cost					

Walls: Brick, Stone, Concrete, Frame or Metal, C.B. or Tile

Roofing: Built-up, Metal, Slate/Tile, Shingle, Insulation

Framing: Wood Joist, Fire Resistant, Fire Proof Steel, Reinf. Concrete

Flooring: Concrete, Wood, Tile or Carpet

Finish Type: Unfinished, Semifinished, Finished Open, Finished Divided

Use: Store, Office, Apartment, Vacant or Aband.

Heating & Air Conditioning: No Heating, Central Warm Air, Hot Wat. or Steam, Unit Heating, Central Air, Package or Unit Air

Sprinkler

Plumbing Fixtures: Full Baths, Half Baths, Extra Fixtures, TOTAL

Other Fixtures (G/F, ES, SS): Wash Fountains, Circular 36", Circular 54", Semi-circular 36", Semi-circular 54", Industrial Gang Sinks, 4' long, 4 man, 8' long, 8 man, Shower - Column, Circular, 5 per, Semi-circular, 3 per, Corner, 2 per, Shower Multi-Stall, Circular, 5 per, Semi-circular, 3 per, Corner, 2 per, Gang Shower Heads, Drinking Fountains, Refrigerated Water Coolers, with Hot & Cold Water, Emergency Shower/eye Wash, No. Fixtures

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	U/M	Adj. Rate	Size or Area	Replacement Cost	Norm. Depr.	Remainder Value	Obsol. Depr.	True Tax Value
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	
10																	
11																	
12																	
13																	

Data Collector / Date

Appraiser / Date

Total True Tax Improvement Value

Figure 7-5. Columns Completed in Task 3

To determine the adjusted base rate and replacement cost for the yard structure, perform these steps:

STEP 1 Compare the features that you entered in the “Features” column in the “Summary of Improvements” with the features in the cost schedule for the yard structure. If the cost schedule indicates that the base rate should be adjusted because of one or more of the features, adjust the base rate accordingly.

STEP 2 Determine the location cost multiplier for your county and enter the multiplier in the “L/M” cell in the “Summary of Improvements” section. Instructions for determining the location cost multiplier are provided in ***Appendix G***.

STEP 3 Divide the grade factor percentage corresponding to the grade entered in the “Grade” column in the “Summary of Improvements” section by 100 to arrive at a multiplier. Instructions for determining the grade factor percentage for a structure are provided in the section “***Assigning Grades to Commercial and Industrial Yard Structures***” in ***Appendix E***.

STEP 4 Calculate the adjusted base rate by multiplying the base rate (adjusted for any features) by the multiplier obtained in Step 2 and then the multiplier obtained in Step 3:

Adjusted B~~b~~ase R~~r~~ate	=	Base R~~r~~ate A~~a~~djusted for F~~f~~eatures	x	Multiplier O~~o~~btained in Step 2	x	Multiplier O~~o~~btained in Step 3

Enter the adjusted base rate in the “Adj. Rate” column.

STEP 5 *If the structure uses a schedule based on a unit of measurement other than a whole dollar amount*, calculate the replacement cost by multiplying the adjusted base rate (entered in the “Adj. Rate” column) by the structure’s unit of measurement (entered in the “Size or Area” column):

Replacement C~~c~~ost	=	Adjusted B~~b~~ase R~~r~~ate	x	Unit of M~~m~~easurement (A~~a~~rea, L~~l~~inear F~~f~~eet, B~~b~~ushels, etc.)

Round the replacement cost to the nearest $10 and enter it in the “Replacement Cost” column.

If the structure uses a schedule based on whole dollar amounts, round the adjusted base rate (entered in the “Adj. Rate” column) to the nearest $10 and enter it in the “Replacement Cost” column.

Task 4—Calculating the Remainder Value

The yard structure's remainder value is its replacement cost adjusted for normal depreciation. The shading in ***Figure 7-6*** indicates the columns of the "Summary of Improvements" section that you complete when calculating the remainder value of the yard structure.

Figure 7-6. Columns Completed in Task 4

To calculate the remainder value of the yard structure, perform these steps:

STEP 1 In the "Eff Age" cell enter the effective age determined from ***Table F-2*** in ***Appendix F***.

STEP 2 Determine the total life expectancy for the yard structure from ***Table F-3e*** in ***Appendix F***.

STEP 3 In the "Normal Depr." column, enter the percentage of reduction in value due to normal depreciation determined from ***Table F-4*** in ***Appendix F***. Information about determining normal depreciation for a general commercial or industrial structure is provided in ***Appendix F***.

STEP 4 Determine the remainder value:

a. Subtract the percentage determined for normal depreciation (entered in the "Normal Depr." column) from 100%.

b. Divide the result obtained in Step 4(a) by 100 to arrive at a multiplier.

c. Calculate the remainder value by multiplying the replacement cost of the structure (entered in the "Replacement Cost" column) by the multiplier obtained in Step 4(b):

Remainder V~~v~~alue = Replacement C~~c~~ost x Multiplier O~~o~~btained in Step 4(b)

d. Round the remainder value to the nearest $10 and enter it in the "Remainder Value" column.

Example: The replacement cost of a structure is $8,000. The normal depreciation percentage for the structure is 30%. The remainder value is:

100% – 30% = 70% ÷ 100 = .70 x $8,000 = $5,600

~~100% – 30% = 70% ÷ 100 = .70 x $8,000 = $5,600.~~

Task 5—Calculating the True Tax Value

The yard structure's true tax value is its remainder value adjusted for obsolescence depreciation, if necessary. The shading in ***Figure 7-7*** indicates the columns of the "Summary of Improvements" section that you complete when calculating the true tax value of the yard structure.

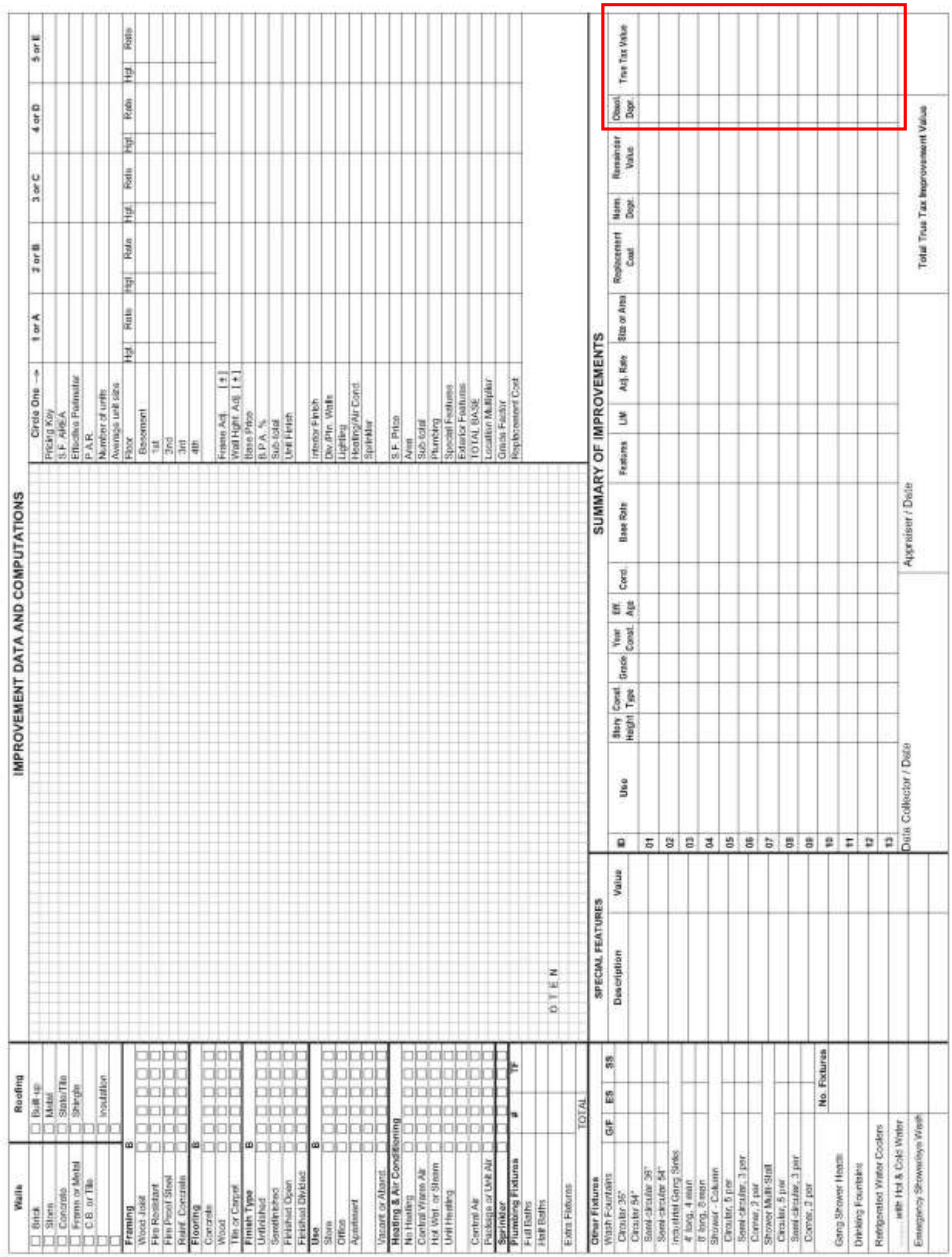


Figure 7-7. Columns Completed in Task 5

To calculate the true tax value of the yard structure, perform these steps:

STEP 1 *If **no** abnormal obsolescence depreciation applies to the yard structure*, round the remainder value to the nearest $100 and enter the amount in the "True Tax Value" column. Skip Step 2 and Step 3.

If abnormal obsolescence depreciation applies to the structure, divide the dollar amount of abnormal obsolescence by the remainder value to get an abnormal obsolescence depreciation percentage. Enter this percentage in the "Obsol. Depr." column of the property record card.

STEP 2 Subtract the percentage determined for abnormal obsolescence depreciation (entered in the "Obsol. Depr." column) from 100%.

STEP 3 Divide the result obtained in Step 2 by 100 to arrive at a multiplier.

Note: This column can also be utilized to make adjustments for improvements less than 100% complete. Be sure to indicate what you have done in the memorandum section.

STEP 4 Calculate the true tax value by multiplying the remainder value of the structure (entered in the "Remainder Value" column) by the multiplier obtained in Step 3.

True T~~t~~ax V~~v~~alue = Remainder V~~v~~alue **x** Multiplier O~~o~~btained in Step 3

Round the result to the nearest $100. Enter the rounded true tax value in the "True Tax Value" column.

Example: The remainder value of a structure is $5,600. The abnormal obsolescence depreciation percentage for the structure is 20%. The true tax value is: 100% – 20% = 80% ÷ 100 = .80 x $5,600 = $4,480 rounded to $4,500.

Task 6—Calculating the Total True Tax Improvement Value

Calculate the true tax value for each structure by performing Task 1 through Task 5 for each yard structure. If you run out of rows in the "Summary of Improvements" section of the property record card, use an additional card (or cards).

To calculate the total true tax value for the property, perform these steps:

STEP 1 *If you used **only one** property record card to complete the "Summary of Improvements" for the property*, sum the entries in the "True Tax Value" column and enter the total in the "Total True Tax Improvement Value" cell.

*If you used **more than one** property record card to complete the "Summary of Improvements" for the property*, on each card except Card 001, sum the entries in the "True Tax Value" column and enter the total for each card in the card's "Total True Tax Improvement Value" cell.

STEP 2 Sum the entries in the "Total True Tax Improvement Value" cell of all of the property record cards except Card 001.

STEP 3 On Card 001, sum the entries in the "True Tax Value" column of Card 001 and add the result to the "Total True Tax Improvement Values" calculated in Step 2. Enter the grand total in the "Total True Tax Improvement Value" cell on Card 001.

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Contents

Tables

This chapter describes the process used for valuing special use commercial properties. This chapter first presents an overview of the special use commercial properties. The rest of this chapter provides step-by-step instructions for calculating and entering information about special use commercial properties in the “Summary of Improvements” section of the property record card. The necessary cost schedules are provided in ***Appendix G*** and depreciation tables in ***Appendix F***.

Special use commercial properties include:

- fast food restaurants
- gasoline service stations, with and without service bays
- self-service cashier booths
- public restroom buildings
- detached canopies.

Note: For paving, use the “Paving” schedule in ***Appendix G***.

Overview of Special Use Commercial Properties

The pricing schedules for special use commercial properties consist of square foot unit values based on C quality grade construction. Data collection for special use commercial properties consists of identifying the square foot area of the structure, the use, the grade, and the year of construction.

Both the fast food restaurant model and the gasoline service station model have a basic layout or floor plan.

The basic layout for a fast food restaurant may include, but is not limited to, the following:

- a small office
- two restrooms
- areas for the following:
  - employee dressing
  - storage
  - food preparation
  - serving
  - dining.

The basic layout for a gasoline service station may include, but is not limited to, the following:

- a sales and office area
- a utility area
- two restrooms
- one or more service bays.

Understanding Fast Food Restaurants

The term fast food restaurant does not always describe the amount of time a customer waits for food. Fast food restaurants are pre-designed and normally are built with different variations of the same plans, with periodic updates of design to characterize changing patterns within the industry.

> **Example**: Solariums are a popular building feature that have been added throughout the past few years. The solarium is included in the square footage calculation of the structure and is ***not*** valued as an exterior feature. Fast food restaurant services may vary from counter-style serving to sit-down dining.

The general construction features for all grades of fast food restaurants include the following:

- foundation grade walls on spread footings
- reinforced concrete floor slab

- exterior wall and roof construction as specified
- entrance doors and plate glass sales front
- frame partitions
- interior finish as specified
- utility service
- fluorescent lighting
- heating
- bibs and drains
- plumbing fixtures.

Understanding Gasoline Service Stations

Some gasoline service stations have converted the original mechanic service bays into mini-grocery stores. The assessor must determine whether these converted structures more resemble the service station without bay model or the convenience market model.

The general construction features for all grades of gasoline service stations include the following:

- foundation grade walls on spread footings
- reinforced concrete floor slab
- exterior wall and roof construction as specified
- entrance doors and plate glass sales front
- masonry partitions
- interior finish as specified
- utility service
- fluorescent lighting
- heating
- bibs and drains
- plumbing fixtures.

Specially designed self-service stations generally feature a cashier's booth and multiple pumps covered with a large canopy. If there is a canopy, select the type of construction and value it on a square footage basis as a separate line entry in the "Summary of Improvements" section. There is a +25% cost adjustment factor if the canopy is round in design.

If the station has an unfinished basement, refer to the "Add for Unfinished Basements" table in the schedule in ***Appendix G*** and value the basement as part of the primary structure.

Understanding Self-Service Cashier Booths

A cashier's booth may or may not include restroom facilities. Often, there is a separate structure housing public restroom facilities and a storage area. The replacement cost schedules for a cashier booth include the following:

- unit heaters
- reinforced concrete floor slab
- exterior walls of various materials measuring 7 to 8 feet in height
- flat, built-up roof
- finished interior walls and ceiling.

Cashier booths are divided into three quality ratings, described in ***Table 8-1***.

Table 8-1. Cashier Booth Quality Ratings

This rating	Indicates
Low cost	Open style with minimum electricity and no plumbing.
Average	Steel construction with good electrical service but no plumbing. Adjust the square foot cost by +25% for bullet-proof glass. Also, *if the facility has plumbing*, add the whole dollar amount identified on the schedule for each plumbing fixture.
Good	Steel construction with good security (bullet-proof glass), and two plumbing fixtures. Adjust the cost by adding a whole dollar amount for each additional plumbing fixture and deducting if there are fewer than two plumbing fixtures. Also, *if the facility has an intercom system*, adjust the value using a whole dollar amount.

Understanding Public Restrooms

Public restroom buildings are rated by the area in square feet. The replacement cost schedules for public restroom buildings include the following:

- four plumbing fixtures
- electric or unit heaters
- foundation grade walls on spread footers
- reinforced concrete floor slab
- exterior walls of various materials measuring 8 to 9 feet in height
- flat built-up roof
- masonry partitions
- painted interior walls and a painted drywall ceiling.

Understanding Detached Canopies

The replacement cost schedules for detached canopies include the following:

- lighting
- soffits
- supports

Detached canopies are rated on quality, and square footage. ***Table 8-2*** lists the quality ratings.

Table 8-2. Detached Canopies Quality Ratings

SELF-SERVICE STATIONS AND DETACHED CANOPIES		
This rating	**Indicates**	
Low cost	Steel	Corrugated metal with light metal supports, minimal lighting and soffit.
	Frame	Composition wood decking on light wood framing supports, minimal lighting and soffit.
Average Cost	Steel	Corrugated metal or steel decking with light metal supports, average quality lighting and average finished soffit.
	Frame	Composition wood decking on light wood framing supports, average quality lighting and average finished soffit.
Good	Steel	Corrugated metal or steel decking steel supports, good quality lighting and finished soffit.
	Frame	Composition wood decking on wood or steel framing supports, good quality lighting and finished soffit.
High	Steel	Steel decking or an elaborate metal finish on steel supports, high quality lighting and finished soffit, elaborate installation.
	Frame	Composition wood decking on wood or steel framing supports, high quality lighting and finished soffit, elaborate finish and decor.
Note: If the canopy is round, add 25% to the base rate.		
FAST FOOD DETACHED CANOPIES		
Low cost	Corrugated metal or composition wood decking with supports, minimal lighting, and no soffit.	
Average cost	Corrugated metal or steel decking with supports, average quality lighting, and unfinished soffit.	
Good	Corrugated metal or steel decking with supports, good quality lighting, and finished soffit.	
High	Corrugated metal or steel decking with supports, high quality lighting, and finished soffit, as well as elaborate finish and decor.	

~~NOTE~~Note: Quality grade factors are not applied to the canopies listed above due to the fact that they are priced according to quality from the pricing schedules.

Pricing Special Use Properties

The special use commercial property cost schedules are based on a square foot unit value applicable to certain types of designed structures. Each schedule represents the typical size variations of the structure and the appropriate base price. To determine the replacement cost of a special use commercial property and record this cost on a commercial and industrial property record card, perform these steps:

STEP 1 Calculate the area of the structure and insert the square foot amount near the top of the pricing ladder. If the area of the basement is more or less than the area of the first floor, price the basement area in the "1" column and the first floor area in the "2" column.

STEP 2 Find the area on the schedule that approximates the area of the structure. There is no need to interpolate the base rates when the structure square footage falls within the ranges of the pricing schedule.

STEP 3 Calculate the subtotal by multiplying the base rate by the area.

Subtotal = Base rate **x** Area

STEP 4 Calculate the adjustment for any special features and exterior features and add the value to the subtotal.

STEP 5 The total base equals the subtotal plus any adjustments for special features and exterior features.

Total B~~b~~ase = Subtotal + Adjustment for S~~s~~pecial F~~f~~eatures and E~~e~~xterior F~~f~~eatures

STEP 6 In the “Location Multiplier” cell, enter the location cost multiplier found in ***Table G-1*** in ***Appendix G***.

STEP 7 In the “Grade Factor” cell, enter the grade multiplier, which is applied to the total base value to account for variations in quality grade and design. Instructions for determining grade are provided in ***Appendix E***.

STEP 8 Calculate the replacement cost by multiplying the total base value obtained in Step 5 by the grade and location multipliers.

Replacement C~~c~~ost = Total B~~b~~ase V~~v~~alue **x** Grade M~~m~~ultiplier **x** Location M~~m~~ultiplier

Round the replacement cost to the nearest $10 and enter it in the “Replacement Cost” cell.

STEP 9 In the "Replacement Cost" column in the ~~-~~"Summary of Improvements" section of the property record card, enter the replacement cost calculated in Step 8.

Calculating the Remainder Value

The structure's remainder value is its replacement cost adjusted for total depreciation.

To calculate the remainder value of a special use structure, perform these steps:

STEP 1 Subtract the percentage determined for total depreciation (entered in the "Normal Depr." column) from 100%.

STEP 2 Divide the result obtained in Step 1 by 100 to arrive at a multiplier.

STEP 3 Calculate the remainder value by multiplying the replacement cost of the structure (entered in the "Replacement Cost" column) by the multiplier obtained in Step 2.

Remainder C~~c~~ost = Replacement C~~c~~ost **x** Multiplier O~~o~~btained in Step 2

Round the remainder value to the nearest $10. Enter the remainder value in the "Remainder Value" column.

Example: The replacement cost of a structure is $120,000. The total depreciation percentage for the structure is 30%. The remainder value is:

100%	–	30%	=	70%	÷	100	=	.70	x	$120,000	=	$84,000

~~100% – 30% = 70% ÷ 100 = .70 x $120,000 = $84,000.~~

Calculating the True Tax Value

To calculate the true tax value of the structure, round the remainder value to the nearest $100 and enter the amount in the "True Tax Value" column of the property record card.

Example: If the remainder value of a structure is $83,960. The true tax value is $84,000.

Calculating the Total True Tax Improvement Value

Calculate the true tax value for each special use structure by performing the necessary steps described in this chapter. If you run out of rows in the "Summary of Improvements" section of the property record card, use an additional card (or cards).

To calculate the total true tax value for the property, perform these steps:

STEP 1 *If you used **only one** property record card to complete the "Summary of Improvements" for the property*, sum the entries in the "True Tax Value" column, and enter the total in the "Total True Tax Improvement Value" cell.

*If you used **more than one** property record card to complete the "Summary of Improvements" for the property*, on each card except Card 001, sum the entries in the "True Tax Value" column and enter the total for each card in the card's "Total True Tax Improvement Value" cell.

STEP 2 Sum the entries in the "Total True Tax Improvement Value" cell of all of the property record cards except Card 001.

STEP 3 On Card 001, sum the entries in the "True Tax Value" column of Card 001 and add the result to the "Total True Tax Improvement Values" calculated in Step 2. Enter the grand total in the "Total True Tax Improvement Value" cell on Card 001.

Contents

Tables

This chapter describes the process used for valuing utility properties. First, this chapter presents an overview of the valuation process. Also, this chapter provides information about distinguishing locally assessed real property ~~from locally assessed personal property~~ and distributable property. Finally, this chapter provides guidelines for identifying local real property for the following types of companies:

- bus companies
- light, heat, or power companies
- pipeline companies
- railroad companies
- sewage companies
- telephone, telegraph, or cable companies
- water distribution companies.

The Handy-Whitman Index is provided at the end of the chapter.

Overview of the Assessment Process for Utility Properties

The Department of Local Government Finance annually assesses each public utility company and railroad. ~~The valuation made by the Department includes all real, personal, and distributable property, wherever it is located. Because locally assessed real and personal property is contained in the unit valuation, the Department removes the value of this property from the unit valuation to avoid duplication of assessment. During the 2003 legislative session, the General Assembly passed HEA 1814. This amended IC 6-1.1-8 to eliminate the requirement that the DLGF certify the assessments of fixed utility property to a county.~~ On May 4, 2015, Governor Pence signed into law House Enrolled Act 1388 (“HEA 1388”), which introduced legislative changes concerning state distributable property assessment. Section 3 of HEA 1388, amended language concerning the Department’s certification of state distributable property assessed values to county assessors and auditors. As of 2017, the Department is required to certify the values to county assessors and auditors on or before June 15. ~~Fixed utility property consists of the locally assessed real and/or personal property owned by a utility. Therefore, starting with the 2003 assessment year, the locally assessed real and personal property assessments will no longer be included on the Form 11A certifications sent to the county assessor and county auditor. These local assessments will be certified to the auditor by the assessor’s office the same as other local assessments. The Form 11A will only certify the assessed value of distributable property as determined by this office. Accordingly, assessors will no longer be required to file Forms 34C or 34T, Utility Reports, with this office.~~ The Department then allocates the remainder, or the distributable property, to the various taxing districts.

Based on the facts and circumstances, the assessing official calculates the replacement cost of structures located on properties owned by utility companies. The replacement cost is derived from the cost schedules found in ***Appendix G***.

Understanding Property as Real, Personal, or Distributable

The use of a specific item or unit of property determines its classification as locally assessed real property~~, locally assessed personal property,~~ or distributable property:

- ~~If an item is personal property, but is not directly used to provide the utility services, it is locally assessed personal property.~~
- If the item is land, a building, or a building improvement, it is locally assessed real property.
- If the item or unit is directly used to provide utility service or any other personal property, it is distributable property.

Some items or units of property may have dual uses. A portion may be used to produce or provide utility service, while the remainder is specifically attributable to a building or structure. To determine whether a central system is locally assessed real property~~, locally assessed personal property,~~ or distributable property, the following standards apply:

- The portion of the central system that is specifically attributable to the building or structure is locally assessed real property.
- The portion of the central system that was installed to specifically accommodate the utility process or activity conducted in the facility is distributable property ~~or locally assessed personal property depending on the specific facts and circumstances of the activity~~.
- If the central system has a dual purpose, an allocation is made based on the specific facts and circumstances surrounding the use of the system. For example, the allocation of a central system would be a plumbing system that was installed both to serve the occupants of a building and also to supply water to cool an item of distributable property. In this case, an allocation is made to account for the portion of the central system that is locally assessed real property, and the portion of the central system that is attributable to the distributable property.

The following items are examples of locally assessed real property (LRP)~~, locally assessed personal property (LPP),~~ or distributable property (DIST):

1. **Air C~~c~~onditioning U~~u~~nits** are assessed as follows:
   - building air conditioning for comfort of occupants—LRP
   - package units, through-the-wall commercial type—LRP
   - special process, ~~LPP or~~ DIST, depending on the application, for example:
     - used to control the temperature and humidity of computer equipment—~~LPP~~ DIST

- used to control the temperature and humidity of telephone switching equipment—DIST

- window units—~~LPP or~~ DIST ~~depending on application~~

2. **Air L~~l~~ines for M~~m~~achinery and E~~e~~quipment**—~~, LPP or~~ DIST, ~~depending on the application,~~ for example:
   - used in maintenance shops—DIST~~LPP~~
   - used to control distributable property—DIST

3. **Ash H~~h~~andling S~~s~~ystem**~~,~~ (pit, pond and framing, or damming related to system)—DIST

4. **Ash H~~h~~olding P~~p~~ond L~~l~~and** – LRP

5. **Auto-C~~c~~all and T~~t~~elephone S~~s~~ystem**—~~LPP~~DIST

6. **Bins**~~,~~ (permanently affixed for storage)—LRP

7. **Boilers**:
   - electric production steam boilers—DIST
   - building service—LRP
   - central system—Allocation is based on the facts and circumstances.

8. **~~Welding~~ B~~b~~ooths** (welding):
   - related to production, transmission, or distribution system—DIST
   - general plant—LPP

9. **Bucket E~~e~~levators** (open or enclosed, including casing)—~~LPP or~~ DIST ~~depending on circumstances~~

10. **Bulkheads** (making additional land area)—LRP, as part of the improved land

11. **Carpeting**~~,~~ (commercial):

    Note: The local real property assessment includes a finished floor.

    - if the carpet is installed over an existing finished floor—DIST~~LPP~~
    - if, as in the case of many newer buildings, carpeting has been specified and is the only finished floor—LRP

12. **Coal H~~h~~andling S~~s~~ystem**—~~,~~ including conveyors, hoppers, special railcar unloading systems, barge unloading systems, and other coal handling equipment—DIST

13. **Control B~~b~~ooth**—DIST

14. **Control R~~r~~ooms**:
    - equipment—DIST
    - structure—LRP

15. **Conveyors**:
    - housing—DIST
    - tunnels—LRP

- unit, including belt and drives—DIST

16. **Cooling T~~t~~owers**~~,~~ (directly used in or for production of utility service)—DIST
17. **Cranes**~~,~~ (moving crane)~~, LPP or~~ DIST, depending on the application, for example:
    - used in the maintenance shops—DIST~~LPP~~
    - used in connection with distributable property—DIST
18. **Crane R~~r~~unways**—~~,~~including supporting columns or structure and foundation inside or outside of buildings—~~LPP or~~ DIST depending on the classification of the crane used on the runway
19. **Docks**:
    - barge—DIST
    - boat docks—LRP
    - coal handling—DIST
    - non-coal handling—LRP
    - truck dock—LRP
    - dock levelers—~~LPP~~DIST
20. **Drapes**—~~LPP~~DIST
21. **Electric T~~t~~ransmission and D~~d~~istribution T~~t~~owers**—DIST
22. **Fence**~~,~~ (security)—LRP
23. **A~~Fire a~~larm S~~s~~ystems** ~~and burglar alarm systems~~(fire and burglar)—DIST~~LPP~~
24. **Fire W~~w~~alls**~~,~~ (masonry)—LRP
25. **Floors**~~,~~ (computer room)—LRP
26. **Foundations that S~~s~~upport D~~d~~istributable P~~p~~roperty**~~,~~ (including the pilings installed to support the machinery and equipment foundations, but not building foundations)—DIST
27. **Foundations that S~~s~~upport B~~b~~uildings**—LRP. When foundations are used in a dual capacity, a reasonable allocation is made.
28. **Gas L~~l~~ines** (for equipment or processing)—DIST
29. **Hoist, H~~h~~oist P~~p~~its**—DIST

~~30.~~ **Hydraulic L~~l~~ines**—~~, LPP or~~ DIST~~, depending on the application, for example:~~
~~▪ used in maintenance areas—LPP~~
30. ~~lines used with or to control distributable property—DIST~~

31. **Lighting**:
    - yard lighting—DIST~~LPP~~
    - special purpose lighting, inside—DIST~~LPP~~
32. **Mixers and ~~mixing~~ Mixing H~~h~~ouses**—DIST
33. **Ovens**~~,~~ (processing)—DIST

34. **Piping**~~,~~ (process piping above or below ground)—DIST

35. **Pits** (for equipment or processing)—DIST

36. **Power L~~l~~ines and A~~a~~uxiliary E~~e~~quipment**—DIST

37. **Pumps and M~~m~~otors**—DIST

38. **Pump H~~h~~ouse**~~,~~ (including substructure, but excluding clear well)—LRP

39. **Racks and S~~s~~helving** (portable or removable)—DIST~~LPP~~

40. **Radio and M~~m~~icrowave T~~t~~owers**—~~LPP~~DIST

41. **Railroad S~~s~~iding**~~,~~ (except belonging to railroad)—LRP

42. **Refrigeration E~~e~~quipment**—DIST

43. **Sanitary S~~s~~ystem**—LRP

44. **Satellite D~~d~~ishes**~~,~~ (commercial use)—DIST~~LPP~~

45. **Scale H~~h~~ouses**—LRP

46. **Scales**—DIST~~:~~

- ~~scales, including pit—LPP~~
- ~~dormant scales—LPP~~

47. **Sheds or B~~b~~uildings**:

- permanent, affixed, or portable confinement buildings—LRP
- open portable pull-type—DIST~~LPP~~
- detached storage structures—LRP

48. **Signs**~~,~~ (including supports and foundation)—DIST~~LPP~~

49. **Silos**:

- ash storage silo—LRP
- containing a utility process—DIST
- storage—LRP

50. **Spray P~~p~~ond**:

- masonry reservoir—LRP
- piping and equipment—DIST

51. **Sprinkler S~~s~~ystem**—LRP

52. **Stacks**:

- supported individual stacks servicing boilers classified as locally assessed real property—LRP
- servicing distributable property units or a process—DIST
- central systems—Allocation is based on the facts and circumstances.

53. Steam E~~e~~lectric G~~g~~enerating E~~e~~quipment—DIST

54. Storage F~~f~~acilities~~,~~ (permanent of masonry or wood)—LRP

55. Storage (vaults and doors)—LRP

56. Substations:

- building—LRP
- equipment—DIST

57. Tanks:

- storage only above or below ground—LRP
- used as a part of the utility process—DIST

58. Towers:

- radio towers—DIST~~LPP~~
- microwave towers—DIST~~LPP~~
- electric transmission and distribution towers—DIST
- cooling towers used for distributable property—DIST

59. Transformers—DIST

60. Tunnels—LRP

61. Tunnels~~,~~ (waste heat, or processing)—DIST

62. Unit H~~h~~eaters~~,~~ (nonportable)—LRP

63. Unit H~~h~~eaters~~,~~ (portable)—DIST~~LPP~~

64. Unloader R~~r~~unway—DIST

65. Ventilating—~~LPP,~~ LRP~~,~~ or DIST depending on the facts and circumstances associated with a dual system

66. Walls~~,~~ (portable partitions)—DIST~~LPP~~

67. Water L~~l~~ines~~,~~ (for processing above or below ground)—DIST

68. Water P~~p~~umping S~~s~~tation~~,~~ (building and structure)—LRP

69. Water P~~p~~umps and M~~m~~otors—DIST

70. Water T~~t~~reating and S~~s~~oftening P~~p~~lant, (building and structure)—LRP

71. Water T~~t~~reating E~~e~~quipment—DIST

72. Wells~~,~~ (pumps, motors, and equipment):

- if used by a water distribution utility—DIST
- wells and equipment that supply water to distributable property—DIST

73. Wells~~,~~ (clear wells)—DIST

74. Wiring~~,~~ (power wiring for distributable property, machinery, and equipment depending on facts and circumstances)~~,~~ with the following examples:

- power wiring used to operate computer equipment—DIST~~LPP~~

- power wiring used to operate distributable property—DIST

Identifying Property to Be Reassessed

This section provides guidelines for identifying local real property for the following types of companies:

- bus companies
- light, heat, or power companies
- pipeline companies
- railroad companies
- sewage companies
- telephone, telegraph, or cable companies
- water distribution companies.

Identifying Property to Be Reassessed for Bus Companies

The assessing official assesses the following property of a bus company as local real property:

- Buildings and structures, including that portion of the heating and lighting systems that provide for the comfort of the employees rather than for use with locally assessed personal property or distributable property.
- Miscellaneous yard improvements, such as the following:
  - fencing
  - parking lots
  - driveways
- Land on which the building and structures are situated.

The Department of Local Government Finance assesses the distributable property of the bus company. The distributable property of a bus company includes the bus vehicles and items directly used in providing the bus service, as well as all other personal property.

Identifying Property to Be Reassessed for Light, Heat, or Power Companies

The assessing official assesses the following property of a light, heat, or power company as local real property:

- Buildings and structures, including that portion of the heating and lighting systems that provide for the comfort of the employees rather than for use with locally assessed personal property or distributable property.
- Miscellaneous yard improvements, such as the following:
  - fencing
  - parking lots
  - driveways
  - substation buildings
  - bridges and trestles

  - culverts
  - tunnels
  - waterfront improvements
  - enclosures erected on foundations used for tool or vehicle storage
  - incinerators
  - docks
  - dams and waterways
  - reservoirs.
- Land on which the building and structures are situated and any land not constituting a part of any right-of-way of the light, heat, or power company.

The Department of Local Government Finance assesses the distributable property of a light, heat, or power company. Distributable property of a light, heat, or power company includes, such items as the following:

- pole racks
- outdoor yard lighting systems
- boiler plant equipment and foundations
- engines and engine-driven generators
- turbo-generator units and foundations
- accessory electric equipment
- miscellaneous power plant equipment
- hydraulic production equipment
- water wheels
- turbines
- generators
- accessory electric equipment
- miscellaneous hydraulic power plant equipment
- substation equipment and foundations
- towers and fixtures
- switchyards
- poles and fixtures
- overhead conductors and devices
- underground conduit, conductors, and devices
- storage battery equipment
- line transformers
- all other personal property~~.~~

Where a light, heat, or power company owns or operates a hydraulic or hydro-electric generating facility, the dam structure is assessed by the assessing official. The hydraulic production equipment is assessed by the Department as distributable property. The dam is assessed as local real property and valued as a separate improvement, but is not necessarily placed on a particular tract of land, because the dam may cover numerous parcels. The valuation basis for dams is the original cost of the dam indexed to ~~March~~ January 1, 20191 using the "Handy-Whitman Index", provided in the section "***Using the Handy-Whitman Index***" in this chapter.

Reservoirs and cooling ponds owned or operated by a heat, light, or power company are assessed in the same manner as water company reservoirs, described in the section Identifying Property to Be Reassessed for Water Distribution Companies in this chapter.

The land located beneath ash and holding ponds is assessed by the assessing official. The land is valued as unusable, undeveloped industrial land. All other features of the ash and holding ponds, including riprap, linings, excavation costs, and so forth are assessed by the Department as distributable property.

Identifying Property to Be Reassessed for Pipeline Companies

The assessing official assesses the following property of a pipeline company as local real property:

- Buildings and structures, including that portion of the heating and lighting systems that provide for the comfort of the employees rather than for use with ~~locally assessed personal property or~~ distributable property. Improvements owned by a pipeline company and located on leased land are reassessed if the improvements are real property, as distinguished from personal property.
- Miscellaneous yard improvements, such as the following:
  - fencing
  - parking lots
  - driveways.
- Land on which the building and structures are situated and any land not constituting a part of any right-of-way of the distribution system of the pipeline company.

The Department of Local Government Finance assesses the distributable property of the pipeline company. The following are distributable properties of a pipeline company:

- equipment
- piping and appurtenances directly related to pumping, compression, metering, and treatment of petroleum products and natural gas
- outdoor yard lighting systems
- communication equipment used for voice communication and for telemetering with the pipeline operation.

Identifying Property to Be Reassessed for Railroad Companies

The assessing official assesses the non-operating land and improvements of a railroad company as local real property. The following are examples of non-operating property:

- right-of-way land and buildings leased to commercial tenants
- land adjoining the right-of-way devoted to industrial parks
- any abandoned right-of-way
- land held for future use
- other railroad land and buildings used for purposes other than railroad operations.

The assessing official does not assess any land or improvement used by the railroad company in its operations. Land used as right-of-way by the railroad company is operating property and is assessed by the Department of Local Government Finance.

For the purpose of determining whether land is locally assessed or is assessed by the Department, railroad right-of-way is considered abandoned when the main track is removed from the right-of-way, following approval by the Interstate Commerce Commission. Abandoned railroad right-of-way is assessed locally by the assessing official as follows:

- In an agricultural setting, the abandoned railroad right-of-way is valued as non-tillable agricultural land.
- In commercial, industrial or residential settings, the abandoned railroad right-of-way is valued as unusable undeveloped acreage.

The Department assesses all of the operating property of the railroad company. The following are examples of operating property:

- right-of-way
- track
- yard facilities
- buildings and structures that are used for railroad operations.

The assessing official consults with the Department or the railroad company to determine whether property is operating or non-operating property.

Identifying Property to Be Reassessed for Sewage Companies

The assessing official assesses the following property of a sewage company as local real property:

- Buildings and structures, including that portion of the heating and lighting systems that provide for the comfort of the employees rather than for use with locally assessed personal property or distributable property.
- Miscellaneous yard improvements, such as the following:
  - fencing
  - parking lots

  - driveways.
- Land on which the building and structures are situated and any land not constituting a part of any right-of-way of the collection system of the sewage company.

The Department of Local Government Finance assesses the distributable property of the sewage company. The distributable property of a sewage company includes any of the following:

- equipment
- piping and appurtenances directly related to pumping
- collection
- disposal
- treatment of sewage.

Where all improvements are directly involved in the sewage treatment process, the assessing official assesses the land only. The Department assesses the sewage plant and mains as distributable property.

Identifying Property to Be Reassessed for Telephone, Telegraph, or Cable Companies

The assessing official assesses the following property of a telephone, telegraph, or cable company as local real property:

- Buildings and structures, including that portion of the heating and lighting systems that provide for the comfort of the employees rather than for use with ~~locally assessed personal property or~~ distributable property.
- Miscellaneous yard improvements, such as the following:
  - fencing
  - parking lots
  - driveways
  - pole yards
  - subterranean bunkers
  - structures at antenna sites.
- Land on which the building and structures are situated and any land not constituting a part of any right-of-way of the distribution system of the telephone, telegraph, or cable company.

The Department of Local Government Finance assesses the distributable property of the telephone, telegraph, or cable company. The distributable property of a telephone, telegraph, or cable company includes the following:

- pole racks
- outdoor yard lighting systems
- microwave and radio antennas (microwave and radio towers are assessed as local personal property)

- electronic and electrical communicating equipment
- telephone poles
- lines and cables
- telephone booths
- portable buildings.

Identifying Property to Be Reassessed for Water Distribution Companies

The assessing official assesses the following property of a water distribution company as local real property:

- Buildings and structures, including that portion of the heating and lighting systems that provide for the comfort of the employees rather than for use with locally assessed personal property or distributable property.
- Miscellaneous yard improvements and facilities such as the following:
  - fencing
  - parking lots
  - driveways
  - impounding reservoirs.
- Land on which the building and structures are situated and any land not constituting a part of any right-of-way of the distribution system of the water distribution company.

The Department of Local Government Finance assesses that portion of a building or structure that is used as a clear well. A clear well is generally a basement or other subterranean area of a building or other structure used by the water distribution company to hold treated water. In the case of a clear well, the assessing official does not assess the basement or subterranean portion of the building used as a clear well.

If property is used for the primary purpose of treating, pumping, transmitting, or distributing treated water, water to be treated, or water in the process of treatment, it is assessed by the Department as distributable property. The following items are examples of distributable property:

- Wells
- Settling basins and filters
- Reservoirs for the storage of treated water or water in the process of treatment
- Elevated storage tanks and standpipes
- Appurtenances to any building or structure such as machinery, equipment, attendant fixtures, or piping, if such appurtenances are used for the primary purpose of treating, pumping, transmitting, or distributing treated water, water to be treated, or water in the process of treatment.

Land and buildings located outside the boundaries of the line demarcating the used and useful reservoir property are assessed by the assessing official and valued in the same manner as all similar land and buildings of like construction within the taxing district.

The assessing official assesses the land located within the used and useful reservoir boundary as commercial or industrial unusable undeveloped land. The value for this land is established by the assessing official.

Buildings located within the used and useful reservoir boundary usually have very little, if any value, and the intent of the water company usually is to sell, burn, raze, or otherwise dispose of them. In this case, the assessing official places a lower value on the buildings for assessment purposes.

The impounding reservoir and dam are assessed by the assessing official as local real property. The dam is valued as a separate improvement, but is not specifically identified with a particular tract of land, since the dam usually covers numerous tracts. The valuation basis for dams is the original cost of the dam indexed to ~~March 1, 2011~~January 1, 2019, using the "***Handy-Whitman Index***" in the section "***Using the Handy-Whitman Index***," in this chapter. The Handy-Whitman Index used by the assessing official is the index for reservoirs, dams, and waterways for the north central region (E-3). The valuation basis for reservoirs is the original cost of construction for the reservoir, excluding the cost of the dam and the cost of the land under the used and useful reservoir property. Once this original cost is calculated, the cost is indexed to ~~March~~ January 1, 2019~~1~~, using the Handy-Whitman Index.

To calculate the multiplier to be applied against the dam and reservoir's original cost, the Handy-Whitman factor for 2019~~1~~ is divided by the factor for the year of construction of the dam and reservoir. Assume you arrive at a factor of 5.0161 from this calculation. Also assume a water distribution company constructed a dam with an original cost of $100,000 and a reservoir with an original cost of $1,000,000. The replacement costs would be $501,600 for the dam and $5,016,100 for the reservoir.

The indexed original cost values for both the dam and reservoir are depreciated at a rate of 2% per year for a maximum period of 35 years. This calculation results in a maximum depreciation of 70%. The dam and reservoir is not depreciated beyond the maximum 70% depreciation as long as the dam and reservoir are used and useful. Depreciation may be accelerated above the 2% per year rate if the owner proves that the anticipated life of the dam or reservoir is substantially less than 100 years.

Land under the used and useful reservoir property is valued using the commercial or industrial unusable undeveloped category and added to the depreciated value of the reservoir. This value is then divided by the amount of used and useful acreage to arrive at a per-acre rate for each acre under the reservoir or an average rate per acre under the various parcels.

The assessing official may contact the Department for assistance in valuing dams and reservoirs.

Using the Handy-Whitman Index

Table 9-1 is the index values for reservoirs, dams, and waterways for the north central region (E-3). The index values were taken from “The Handy-Whitman Index of Public Utility Construction Costs”, published by Whitman, Requardt and Associates, LLP, 801 South Caroline Street, Baltimore, Maryland 21231; all rights reserved.

Table 9-1. Handy-Whitman Index

Year of Construction	Handy-Whitman Index	Year of Construction	Handy-Whitman Index	Year of Construction	Handy-Whitman Index
1912	8	1950	35	1988	240
1913	8	1951	38	1989	247
1914	9	1952	39	1990	248
1915	9	1953	42	1991	251
1916	10	1954	43	1992	250
1917	14	1955	45	1993	261
1918	16	1956	48	1994	271
1919	17	1957	51	1995	284
1920	18	1958	52	1996	295~~1~~
1921	18	1959	54	1997	~~299~~303
1922	17	1960	56	1998 (Jan. 1)~~1999~~	303 ~~311~~
1923	17	1961	56	~~2000~~1998 ~~2001~~(Jul. 1)	311
1924	18	1962	57	~~2002~~1999 ~~2003~~(Jan. 1)	311
1925	18	1963	58	1999~~2004~~ ~~2005~~(Jul. 1)	319
1926	18	1964	60	2000~~6~~ ~~2007~~(Jan. 1)	322
1927	18	1965	62	2000~~8~~ ~~2009~~(Jul. 1)	329
1928	18	1966	64	~~2010~~2001 ~~2011~~(Jan. 1)	328
1929	18	1967	67	2001 (Jul. 1)	338
1930	18	1968	70	2002 (Jan. 1)	337
1931	17	1969	75	2002 (Jul. 1)	346
1932	15	1970	80	2003 (Jan. 1)	348
1933	15	1971	87	2003 (Jul. 1)	348
1934	16	1972	93	2004 (Jan. 1)	364
1935	16	1973	100	2004 (Jul. 1)	370
1936	17	1974	104		
1937	18	1975	126		
1938	18	1976	129		
1939	18	1977	133		
1940	19	1978	141		
1941	20	1979	158		
1942	21	1980	177		
1943	21	1981	191		
1944	21	1982	197		
1945	22	1983	203		
1946	25	1984	211		
1947	29	1985	222		
1948	32	1986	225		
1949	34	1987	232		

Year of Construction	Handy-Whitman Index
2005 (Jan. 1)	384
2005 (Jul. 1)	388
2006 (Jan. 1)	399
2006 (Jul. 1)	404
2007 (Jan. 1)	417
2007 (Jul. 1)	428
2008 (Jan. 1)	439
2008 (Jul. 1)	446
2009 (Jan. 1)	447
2009 (Jul. 1)	441
2010 (Jan. 1)	445
2010 (Jul. 1)	449
2011 (Jan. 1)	462
2011 (Jul. 1)	464
2012 (Jan. 1)	476
2012 (Jul. 1)	481
2013 (Jan. 1)	487
2013 (Jul. 1)	488

Year of Construction	Handy-Whitman Index
2014 (Jan. 1)	495
2014 (Jul. 1)	500
2015 (Jan. 1)	511
2015 (Jul. 1)	510
2016 (Jan. 1)	511
2016 (Jul. 1)	514

Contents

Tables

This appendix describes the concept of construction quality grade as it pertains to assessing:

- residential dwellings
- residential and agricultural yard improvements

This appendix discusses how construction quality is a necessary determinant of cost new and how it is used in the valuation process through the assignment of grade factors. Guidelines are included for determining the quality grade of improvements. This appendix also describes the types of materials, design features, and workmanship characteristic of each quality grade. Pictures of graded improvements are provided to help the assessing official determine the grade of actual improvements.

Understanding the Concept of Construction Quality

Construction quality is a central concept in the approaches used to value dwelling units and residential and agricultural yard improvements. The quality of the material and workmanship used in constructing an improvement, together with its design elements, will influence its cost new.

Construction quality, and the resultant quality grade assigned, is a composite characteristic. It describes the cumulative effects of workmanship, the costliness of materials, and the individuality of design used in constructing an improvement.

Although the construction quality of individual components of an improvement may vary, the overall construction quality tends to be consistent for the entire residence. This is true because a builder will normally install components that tend to be of consistent quality and that will compliment each other.

Workmanship quality can easily be observed in an inspection of the property. Good quality workmanship is evidenced by plumb vertical surfaces, level horizontal surfaces, perfectly mitered trim joints, smooth interior surfaces on walls and ceilings, properly located and installed mechanical systems, and an overall pride in workmanship.

Material quality is also easily observable during an inspection of the property. Primary indicators of material quality are type and spacing of framing members, type and grade of interior and exterior finishing materials, type and grade of plumbing and electrical fixtures, and type and grade of mechanical systems.

Design is also an indicator of quality of construction. Improvements using simple or standard floor plans, little or no exterior decorative millwork, and basic interior trim are indicative of average and low quality improvements. Examples of higher quality designed improvements are those that have custom designed floor plans, higher pitched roofs with more than one roof line, decorative exterior millwork and masonry, and detailed interior design characteristics.

The costs given in this manual are for improvements that demonstrate a construction quality that is typical of the majority of improvements that will be valued.

Understanding Quality Grades

For each of the types of improvements (dwelling units and residential and agricultural yard improvements), a model has been defined to summarize the elements of construction quality that are typical of the majority of that type improvement. This typical model has been assigned a "C" quality grade for residences. The characteristics of these typical models can be thought of as construction specifications for an improvement that was built with average quality materials and workmanship.

For dwelling units, as well as for residential and agricultural yard improvements, "AAA", "AA", "A", and "B" grade models have been defined to summarize the elements of improvements that use higher quality, hence more costly, building materials and workmanship than the typical model

For dwelling units, as well as for residential and agricultural yard improvements, "D" and "E" grade models have been defined to summarize the elements of improvements that use lower quality, hence lower cost, building materials and workmanship than the typical model

When considering quality grade, keep in mind that the grades are relative rankings of the cost of the materials, workmanship, and design used in construction. Quality grade does not indicate an improvement is inferior or superior to an improvement assigned a different grade.

This appendix describes the construction elements for each quality grade for each type of residential and agricultural improvement. It also provides pictures and descriptions of actual improvements to illustrate the various quality grades.

Understanding Quality Grade Factors

The replacement cost of an improvement is calculated by taking the base price of the improvement, adjusting it for various construction elements that add or deduct value, and then multiplying this adjusted cost by a percentage based on the improvement's grade. This percentage, known as a Quality Grade Factor, adjusts the costs in this manual for variations in construction quality.

The quality grade factor for an improvement assigned a "C" grade is 100% since this was the quality grade assigned the models used to develop the costs published in this manual. In other words, a "C" quality grade has no affect on the costs taken from this manual. The quality grade factors for the other quality grades reflect an increase in costs above those costs given in the tables of this manual for quality grades higher than the typical and a decrease in costs for quality grades lower than the typical, as shown in ***Table A-1***.

Table A-1. Quality Grade Factors

Quality Grade	Quality Grade Factor
AAA	360%
AA	240%
A	160%
B	120%
C	100%
D	80%
E	40%

Assigning Quality Grades

When trying to determine a quality grade, the assessing official first finds several improvements that are typical for the type of materials, workmanship, and design found in the majority of improvements within the neighborhood. The assessing official then compares the materials, workmanship, and design used in these representative improvements to the construction specifications given in the quality grade classification tables and the pictures of graded improvements in this manual.

Note: The assessing official should emphasize the quality of materials and workmanship used in the construction of the improvement when conducting this analysis and place less reliance on the pictures of graded improvements shown in this manual. Photographs alone cannot be used to determine construction quality grade since the front elevation may not truly represent the overall construction quality of both the interior and exterior of the improvement.

The assessing official selects the quality grade that the representative improvements most closely resemble. This then becomes the base quality grade to be used as a starting point in determining the actual quality grade for each improvement within that neighborhood.

A second method of establishing the base quality grade for a neighborhood is to compare the actual construction costs of the improvements in the neighborhood, trended to December 31, ~~2010~~2018, to the construction costs given in this manual. If the trended actual costs match the costs in the table of this manual, then the base quality grade for the neighborhood is "C". If they are higher or lower than the costs in the tables of this manual, then the base quality grade for the neighborhood would be something other than a quality grade of "C". In this case, the base quality grade would be determined by dividing the trended actual costs by the costs determined from the manual. The result of this calculation should be compared to the quality grade factors in ***Table A-1*** and ***Table A-2*** to determine the corresponding quality grade.

The majority of dwelling units have a quality grade that falls between the "D" and "B" classifications, clustering heavily around the "C" classification. Neighborhoods tend to have improvements with the same or similar quality of construction, thus narrowing the range of base grades applicable to a particular neighborhood.

When assigning quality grades to individual improvements within the neighborhood, the assessing official starts with the assumption that the subject improvement will have the same quality grade as the base quality grade established for the neighborhood.

Assigning Intermediate Quality Grades

Some improvements in the neighborhood may have construction characteristics that deviate from the base quality grade specifications. To assign a quality grade to these properties, the assessing official must weigh the components that deviate from the base quality grade selected for the neighborhood to determine whether an intermediate quality grade, or an entirely higher or lower full quality grade, is appropriate. The assessing official should steer away from using intermediate quality grades if at all possible. Most improvements will be designed and constructed using materials, workmanship, and design that are typical for the base quality grade assigned to their neighborhood without the need to assign intermediate quality grades. Thus, the assessing official must use careful judgment when assigning any quality grade that varies from the base quality grade for the neighborhood.

The following guidelines apply when assigning intermediate quality grades:

- "+ 2" indicates a quality grade that falls halfway between two full quality grades (AA, A, B, C, D, E). The quality grade factor for this intermediate quality grade is halfway between the percentages for the two full quality grades immediately above and below it.
    - For example, a quality grade of "C + 2" indicates that the overall construction quality is halfway between "C" and "B". It would have a quality grade factor of 110% meaning the assessing official has determined that the construction quality of the improvement has caused its cost new to be 10% higher than those given in the cost schedules in this manual.
- "+ 1" indicates a quality grade slightly higher than the full quality grade immediately below it. The quality grade factor for this intermediate quality grade is one quarter of the interval between the percentages for the two full quality grades immediately above and below it.
    - For example, a grade of "C + 1" indicates that the overall construction quality is one quarter of the way between "C" and "B". It would have a

quality grade factor of 105% (one quarter of the way between 100% and 120%). This means the assessing official has determined that the construction quality of the improvement has caused its cost new to be 5% higher than those costs given in the schedules in this manual.

- "– 1" indicates a quality grade slightly lower than the full quality grade immediately above it. The quality grade factor for this intermediate quality grade is one quarter of the interval between the percentages for the two full quality grades immediately above and below it.
  - For example, a grade of "C - 1" indicates that the overall construction quality is one quarter of the way between "C" and "D". It would have a quality grade factor of 95% (one quarter of the way between 100% and 80%). This means the assessing official has determined that the construction quality of the improvement has caused its cost new to be 5% lower than those costs given in the schedules in this manual.
- "E –1" is the only intermediate quality grade below "E". It represents a reduction of ten percentage points from the "E" quality grade factor.
- Intermediate quality grades above "A" are indicated by "+ 1" through "+ 8". Each number between "+ 1" and "+ 4" represents an increase of twenty percentage points between it and the next lowest intermediate grade designation. Each number between "+ 5" and "+ 8" represents an increase of thirty percentage points between it and the next lowest intermediate grade designation.

Example: The assessing official has determined that the base quality grade for a neighborhood is "C". A dwelling within that neighborhood has a roof that has a higher than normal pitch and is composed of two distinct rooflines. The dwelling's roof overhangs are wider than most dwellings in the neighborhood. There is also a four-foot offset at one corner of the dwelling that prevents it from being a simple rectangular shape like most of the dwellings in the neighborhood. The assessing official decides to assign this improvement an intermediate quality grade, higher than the "C" base quality grade but lower than "B", and places a "C+2" quality grade on the dwelling. In doing so, the assessing official has determined that the design features of the subject residence make its cost new 10% higher than the costs given in the manual. (The quality grade factor percentage for a quality grade of "C+2" is 110% as shown in ***Table A-2***, below.)

Note: An intermediate grade can be assigned to all other types of agricultural and residential improvements.

Grade Factor Percentages

Table A-2 shows the quality grade factors as percentages for the full and intermediate quality grades for improvements other than mobile and manufactured homes.

Table A-2. Quality Grade Factors for Dwelling Units

GRADE	FACTOR
AAA	360%
AAA–1	330%
AA +2	300%
AA +1	270%
AA	240%
AA -1	220%
A+2	200%
A+1	180%
A	160%

GRADE	FACTOR
A-1	150%
B+2	140%
B+1	130%
B	120%
B-1	115%
C+2	110%
C+1	105%
C	100%
C-1	95%

GRADE	FACTOR
D+2	90%
D+1	85%
D	80%
D-1	70%
E+2	60%
E+1	50%
E	40%
E-1	30%

Quality Grade Specification Tables

Table A-3 provides a list of the typical construction materials and design elements found in dwelling units of each full construction quality grade. This table is designed to assist the local assessing official in determining the appropriate quality grade to assign to dwelling units in his/her jurisdiction.

These descriptions **are not** detailed construction specifications of any particular dwelling unit. They are intentionally general to emphasize the most prominent elements of all dwelling units within a given quality grade. Because a dwelling unit does not have a particular element listed in the table, does not mean it cannot fit into the respective quality grade. Likewise, if a dwelling unit has something more than is listed in a particular quality grade, it does not necessarily mean it fits into a higher quality grade.

As stated earlier in this discussion of construction quality; although the construction quality of individual components of an improvement may vary, the overall construction quality tends to be consistent for the entire residence.

Table A-3. Quality Grade Specifications for Dwelling Units (Grades "AAA" through "E")

	"AAA" Grade	"AA" Grade	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
Foundation	10" or 12" reinforced poured concrete; 10" or 12" concrete blk	10" or 12" reinforced poured concrete; 10" or 12" concrete blk	8" poured concrete or 8" concrete block	8″ poured concrete or 8" concrete block	8″ poured concrete or 8" concrete block	8″ concrete block	8″ concrete block or concrete block piers
Slab on Grade	6" reinforced concrete slab on sand or gravel base	6" reinforced concrete slab on sand or gravel base	4" concrete slab on gravel base	4" concrete slab on gravel base	4" concrete slab on gravel base	4" concrete slab on gravel base	4" concrete slab on gravel base
Structural F~~f~~loors	Wood or steel joists and sub floor sized & spaced to support additional interior components; foamed concrete surfacing	Wood or steel joists and sub floor sized & spaced to support additional interior components; may include foamed concrete surfacing	¾" plywood sub floor on 2″x8" or 2"x10" wood joists or wood I-joist	¾" plywood sub floor on 2″x8" or 2"x10" wood joists or wood I-joist	¾" plywood sub floor on 2″x8" or 2"x10" wood joists or wood I-joist	¾" plywood on 2″x8″ wood joists	½" or ¾" plywood on 2″x8″ wood joists
EXTERIOR WALLS							
Framing	2"x6" or 2"x8" studs 16" o.c. with partial or total steel frame to allow for long spans in larger rooms	2"x6" or 2"x8" studs 16" o.c. with partial steel frame to allow for long spans in larger rooms	2" x 6" or 2"x4" studs 16" o.c. with insulation board	2" x 6" or 2"x4" studs 16" o.c. with insulation board	2" x 6" or 2"x4" studs 16" o.c. with insulation board	2" x 4" studs 24" o.c .	2" x 4" studs 24" o.c.
Frame Sdg.	Wood shakes or cedar/steel/vinyl lap siding or stucco on lath	Wood shakes or cedar/steel/vinyl lap siding or stucco on lath	Wood shakes or cedar/steel/vinyl lap siding or stucco on lath	Wood shakes or cedar/steel/vinyl lap siding	Composite, alum., plywood, or vinyl siding	Composite, alum., plywood siding or textured plywood	Composite lap siding or textured plywood
Masonry Sdg.	Very finest select brick, cut stone, marble, granite or equal	Select brick, cut stone, marble, granite or equal	Brick or stone veneer	Brick or stone veneer	Brick or stone veneer	No masonry veneer	No masonry veneer
Doors	Solid core wood or insulated steel doors, sidelights; transoms very finest quality hardware	Solid core wood or insulated steel doors, sidelights, high quality hardware	Solid core wood or insulated steel doors, sidelights, high quality hardware	Solid core wood or insulated steel doors, sidelights	Solid core wood or insulated steel doors, sidelights	Wood or steel doors	Wood doors
Windows	Very finest quality casement or double hung, energy efficient windows	High quality casement or double hung, energy efficient windows	Casement or double hung wood or vinyl clad with energy efficient glass	Casement or double hung wood or vinyl clad with energy efficient glass	Double hung wood or vinyl	Wood, aluminum, or vinyl	Wood, aluminum, or vinyl
EXTERIOR WALLS (CONTINUED)							
Other	Custom trim and ornamentation above doors and windows, roofline, and on other exterior surfaces	Custom trim and ornamentation above doors and windows	---	---	---	---	---

	"AAA" Grade	"AA" Grade	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
ROOF							
Design	Custom design with many ridges and valleys with a pitch up to 6:12	Custom design with many ridges and valleys with a pitch up to 6:12	Multi-gable, hip & high pitch	Gable, hipped, or gambrel; moderate to high pitch	Gable, hipped, or gambrel; moderate pitch	Gable; moderate to low pitch	Gable; moderate to low pitch
Framing	Heavy wood rafters or custom trusses	Heavy wood rafters or custom trusses	Rafters or trusses	Rafters or trusses	Rafters or trusses	2"x4" trusses	2"x4" trusses
Sheathing	¾" or thicker plywood or boards	¾" or thicker plywood or boards	7/16″ or thicker plywood or boards	7/16″ or thicker plywood or boards	7/16" or thicker plywood or composition board	7/16" plywood or comp. board	Composition board
Cover	Wood shake, slate, or clay tile	Wood shake, slate, or clay tile	Wood shake or fiberglass shingles	Fiberglass or cedar shingles	Fiberglass or composition shingles	Fiberglass or composition shingles	Fiberglass or composition shingles
Soffits	Wide overhangs up to 3'	Wide overhangs up to 3'	12"-24" overhangs	12"-24" overhangs	12"-24" overhangs	12" or less overhang	No overhangs
Flashing	Copper	Copper or galvanized	Copper, galv., or aluminum	Copper, galv., or aluminum	Aluminum	Aluminum	Aluminum
Gutters	Designed and constructed to be an integral part of residence	5" or 6" wood, steel, or alum made as an integral part of roofline	5" or greater wood, steel, or alum.	5" or greater steel or aluminum	Aluminum or plastic	Aluminum or plastic	Aluminum or no gutters
INTERIOR FINISH							
Flooring	Very finest quality or custom carpet and resilient cover, hardwood, terrazzo, ceramic, marble, granite	Best quality or custom carpet and resilient cover, hardwood, terrazzo, ceramic, marble, granite	Marble, ceramic tile hardwood, high-grade carpet and resilient flooring	Ceramic tile, good-grade vinyl, hardwood, good-grade carpet	Builders grade carpet and vinyl	Builders grade carpet and vinyl	Low grade carpet or vinyl
Wall Covering	Decorative drywall or plaster w/paint and/or very finest grade cover and/or hardwood panels	Decorative drywall or plaster w/paint and/or best grade cover and/or hardwood paneling	Drywall or plaster w/paint and/or high grade cover	Drywall or plaster w/paint and/or good grade cover	Drywall with paint	Drywall with paint	Inexpensive painted or textured drywall, printed hardboard
Doors	Very finest quality raised-panel solid hardwood w/finest quality hardware	Best quality raised-panel solid hardwood w/best quality hardware	Six panel or solid core doors; stained or painted w/high quality hardware	Six panel wood or composition doors, stained or painted w/good quality hardware	Six panel or slab wood or composition doors, stained or painted, average quality hardware	Hollow core wood doors; stained or painted	Hollow core wood doors; stained or painted
Trim	Decorative hardwood with extensive use throughout; installed w/excellent workmanship	Decorative hardwood with extensive use throughout; installed w/excellent workmanship	Oak, poplar, or pine 3-1/2"+ baseboard, 2-1/2"+ casing, crown molding, chair rail, wainscoting	Oak, poplar, or pine 3-1/2"+ baseboard, 2-1/2"+ casing, crown molding, chair rail, wainscoting	Pine 3-1/2" baseboard, 2-1/2" casing	Ranch base and casing	Ranch base and casing

	"AAA" Grade	"AA" Grade	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
INTERIOR FINISH (CONTINUED)							
Cabinets	Very finest quality wood, resin, or baked enamel finish w/finest quality hardware; counter top of best quality plastics, ceramic, granite, or marble	Best quality wood, resin, or baked enamel finish w/best quality hardware; counter top of best quality plastics, ceramic, granite, or marble	High quality wood & hardware; counter top of laminate plastic, ceramic, or cultured marble	Good quality wood & hardware; counter top of laminated plastic or ceramic	Standard grade box cabinets w/standard hardware; counter top of laminated plastic	Standard grade box cabinets w/standard hardware; counter top of laminated plastic	Standard grade box cabinets w/standard hardware; counter top of laminated plastic
Built-ins	Bookcases, shelves, mantles, cabinets, desks, kitchen island, pantry, entertainment centers, wet bar, walk-in closets with built-in features, exercise room, large linen closets; vaulted or custom ceilings	Bookcases, shelves, mantles, cabinets, desks, kitchen island, pantry, entertainment centers, wet bar, walk-in closets; custom ceiling designs	Bookcases, mantles, entertainment centers, china cabinets	Bookcases and mantles	Mantles	---	---
Stairways	Very finest hardwood including handrail system; may be carpeted; may be curved	Oak, poplar, or other finish grade lumber including handrail system; may be carpeted; may be curved	Oak, poplar, or other finish grade lumber including handrail system; may be carpeted; may be curved	Oak, poplar, or other finish grade lumber including handrail system; may be carpeted	Oak, poplar, or other finish grade lumber including handrail system; may be carpeted	Pine; painted, stained or carpeted	Pine; painted, stained or carpeted
Bath Finish	Very finest quality ceramic tile, plastic laminates or marble	Best quality ceramic tile, plastic laminates or marble	High quality ceramic tile or marble	Good quality ceramic tiled bath	Ave. quality ceramic tile or fiberglass tub enclosure	Fiberglass tub enclosure	No finish over drywall in bath
Service	200 amp	200 amp	200 amp	100 or 200 amp	100 amp	60 or 100 amp	60 amp
Wiring	Conduit	Conduit	Romex cable	Romex cable	Romex cable	Romex cable	Romex cable
Outlets	Abundant outlets that are well-positioned	Abundant outlets that are well-positioned	Abundant outlets	Abundant outlets	Adequate outlets	Adequate outlets	Few outlets
Fixtures	Very finest quality; custom light treatments; High value chandeliers throughout	Best quality; under counter and cabinetry lighting High value chandelier	High grade fixtures	Good grade fixtures	Average grade fixtures	Average or inexpensive fixtures	Inexpensive fixtures
HEATING							
Equipment	Large capacity central forced air or steam; may include more than one heating plant; insulated ductwork or piping	Large capacity central forced air or steam; may include more than one heating plant; insulated ductwork or piping	Central forced air or steam	Central forced air or steam	Central forced air	Central forced air	Central forced air or space heaters

	"AAA" Grade	"AA" Grade	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
HEATING (CONTINUED)							
Thermostat	Zoned	Zoned	Zoned	Central	Central	Central	Central
PLUMBING							
Piping	Copper or iron	Copper or iron	Copper or iron	Copper or iron	Copper, iron, or plastic	Plastic	Plastic
Kitchen Fixtures	Very finest quality porcelain or stainless steel; multiple sinks; very finest quality faucets	Best quality porcelain or stainless steel; multiple sinks; best quality faucets	High quality porcelain or stainless steel sink; high quality faucets	Better quality porcelain or stainless steel sink; better quality faucets	Average quality porcelain or stainless steel sink; average quality faucets	Stainless steel sink; average quality faucets	High quality pedestal sink or vanity; high quality faucets
Bathroom Fixtures	Very finest quality tiled shower stall; sunken tub; jacuzzi; bidet, vanities or pedestal sinks	Best quality tiled shower stall; sunken tub; jacuzzi; bidet, vanities or pedestal sinks	High quality pedestal sink or vanity; high quality faucets and fixtures	Good quality pedestal sink or vanity; good quality faucets and fixtures	Average quality vanity; average quality faucets and fixtures	Average quality vanity; average quality faucets and fixtures	Wall hung lavatory; average quality faucets and fixtures
Vanity Tops	Very finest quality marble, ceramic, or equal	Best quality marble, ceramic, or equal	Marble, ceramic, high quality plastic laminates	Cultured marble, ceramic, better quality plastic laminates	Cultured marble, ceramic, average quality plastic laminates	Plastic laminates	---
DESIGN CHARACTERISTICS							
	One-of-a-kind, architecturally designed for an individual; specifies very finest quality workmanship, fenestration, appointments, finishes, and considerable attention to detail	Architecturally designed with attention to detail	Individual custom design with attention to detail	Custom built	Tract type	Tract type	Tract type
	Numerous cuts, angles, and offsets	Numerous cuts, angles, and offsets	Numerous cuts, angles, and offsets	Few cuts, angles, and/or offsets	Rectangular or with minor offsets	Rectangular	Rectangular
	Stresses uniqueness, height and irregularity	Stresses uniqueness, height and irregularity	Stresses height and irregularity	Stresses horizontal & symmetrical	Stresses eye appeal w/standard colors	Meets minimum building code	May not meet minimum bldg. code

Photographs of Graded Dwelling Units

The following photographs illustrate the grade classifications for dwelling units. These photographs are provided to help the assessing official determine the grade of actual dwelling units.

Important: *These photographs are only an indication of grade and not a determination of the actual grade of the improvement shown. The grade determination must be based on individual inspection of the type of materials, quality of workmanship, and design of the subject improvement.*

Grade AA Residential Dwelling

Grade AA Residential Dwelling

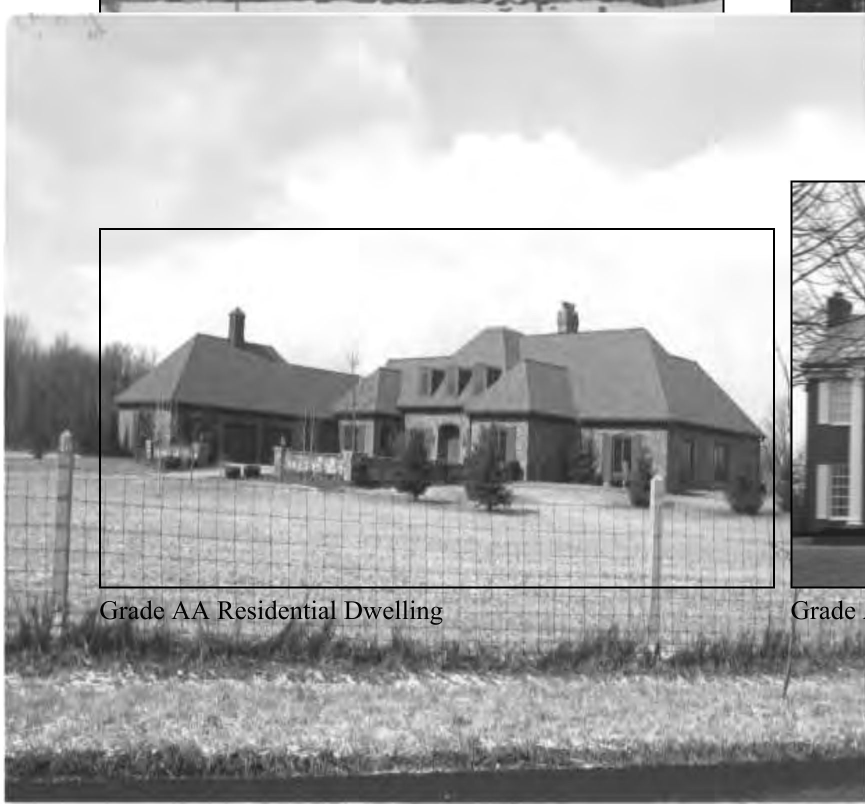
Grade AA Residential Dwelling

Grade AA Residential Dwelling

Grade AA Residential Dwelling

Grade AA Residential Dwelling

AA Residential Dwelling



Grade AA Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

Grade A Residential Dwelling

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Appendix A

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Grade E Residential Dwelling

Grade E Residential Dwelling

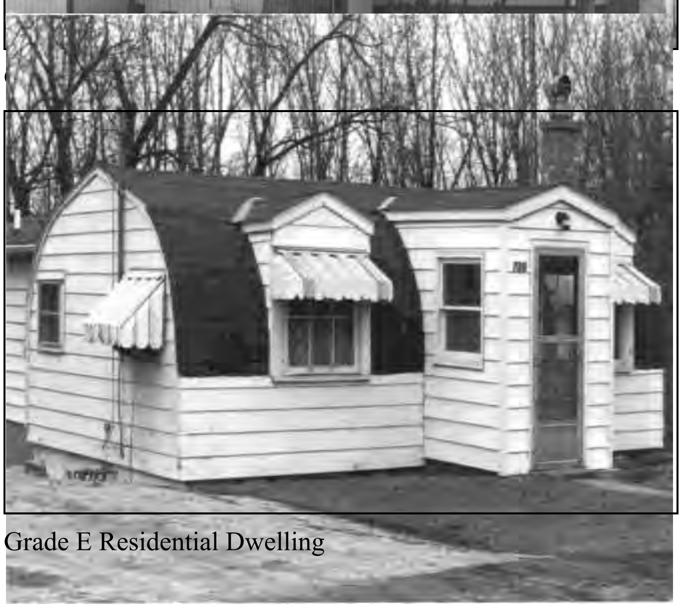
Grade E Residential Dwelling

Appendix A

Grade E Residential Dwelling

Grade E Residential Dwelling

Grade E Residential Dwelling



Grade E Residential Dwelling

Grade E Residential Dwelling

Assigning Grades to Residential and Agricultural Yard Structures

The Cost Schedules for Residential and Agricultural Yard Structures, provided at the end of ***Appendix C***, reflect the specifications for "C" grade structures.

Determining Grade Factor Percentages

Table A-4 shows the grade factor percentages for the whole and intermediate grades for residential and agricultural yard structures.

Table A-4. Percentage Multipliers for Residential and Agricultural Yard Structure Grades

-1	E	+1	+2	-1	D	+1	+2	-1	C	+1	+2	-1
30	40	50	60	70	80	85	90	95	100	105	110	115
	E				D				C			
B	+1	+2	-1	A	+1	+2	-1	AA	+1	+2	-1	AAA
120	130	140	150	160	180	200	220	240	270	300	330	360
B				A				AA				AAA

Photographs of Graded Residential and Agricultural Yard Structures

The following photographs illustrate the grade classifications for residential and agricultural yard structures. These photographs are provided to help the assessing official determine the grade of actual residential and agricultural yard structures.

Important: *These photographs are only an indication of grade and not a determination of the actual grade of the structure shown. The grade determination must be based on individual inspection of the type of materials and quality of workmanship of the subject parcel.*

Grade C Detached Garage with Shed-type Carport

Grade C Detached Garage

Grade C Detached Garage

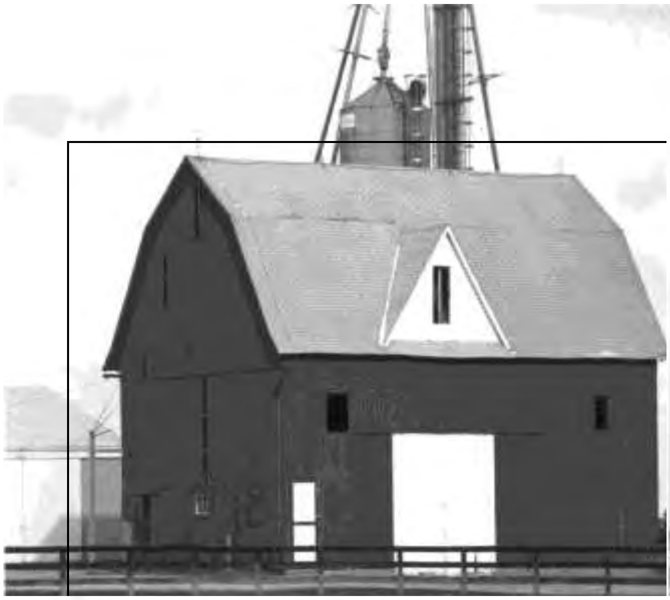
Grade C Detached Garage (Pole Type Construction)

Grade D Detached Garage

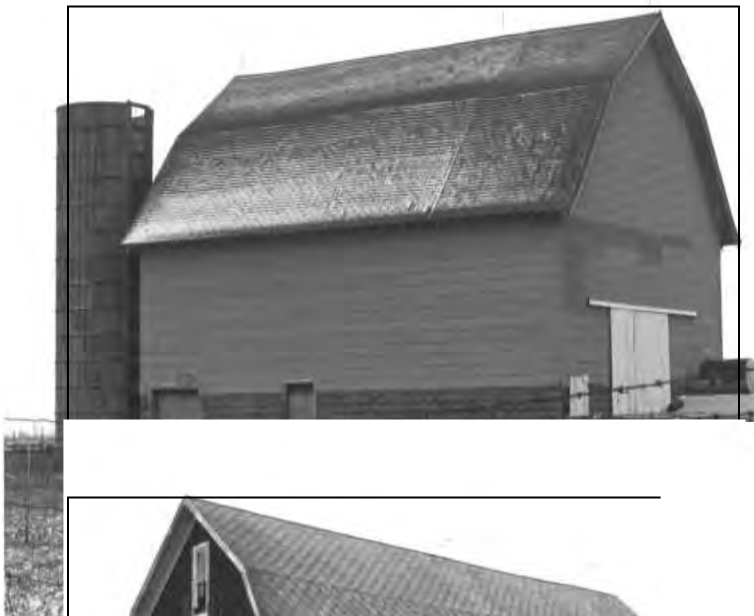
Grade E Detached Garage

Grade E Detached Garage

Grade E Detached Garage



C Flat Barn



Grade C Flat Barn

Grade C Flat Barn

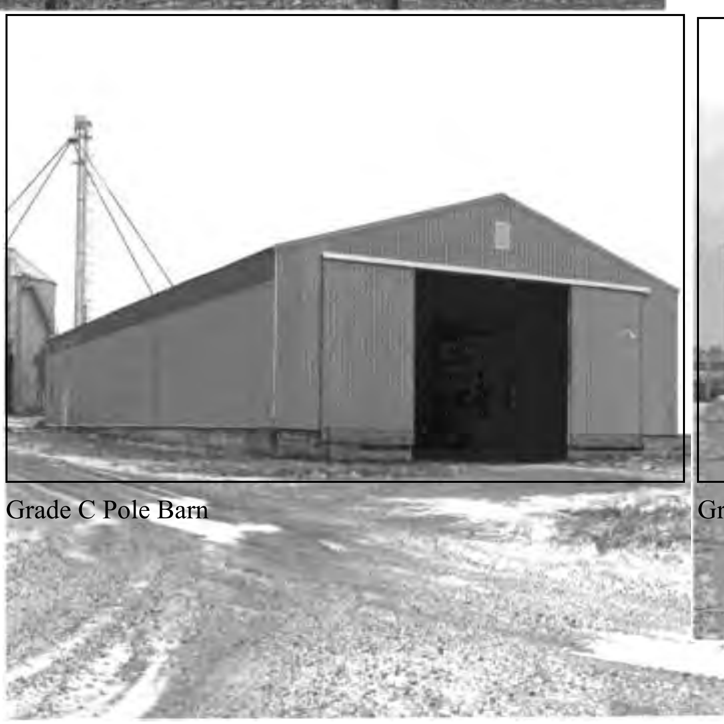
le D Flat Barn

Grade D Flat Barn

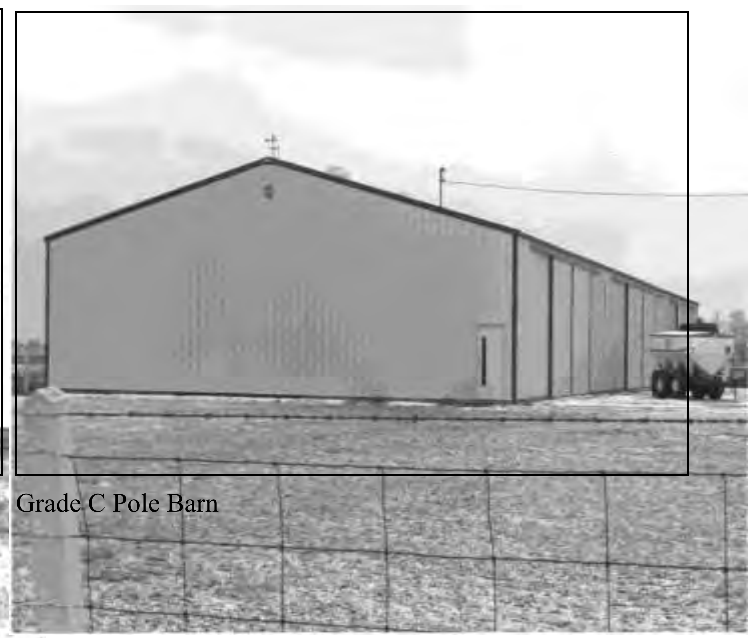
Grade D Flat Barn

Grade C Bank Barn

Grade C Bank Barn



Grade C Pole Barn



Grade C Pole Barn

Appendix A

Grade C Pole Barn

Grade C Pole Barn

Grade C Pole Barn, One Side Open

Grade C Pole Barn, One Side Open

Grade C Hog Confinement

Hog Confinement

Grade C Confinement

Grade C Confinement

Grade C Confinement

Grade C Quonset

Grade C Quonset

Grade C Quonset

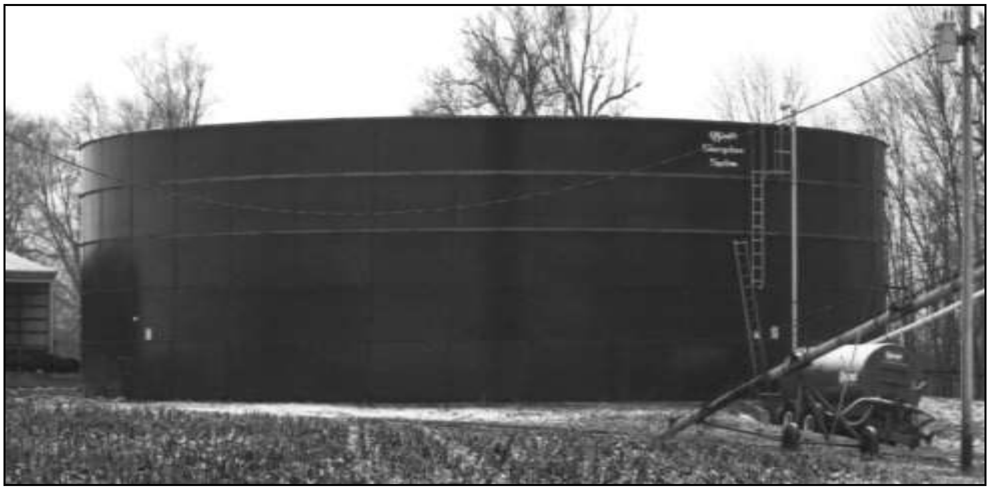
Grade D Implement Shed

Grade D Corn Crib, Drive-thru Type

Harvestore Silo

Concrete Stave Silo

Bunker Silo



Slurry Tank

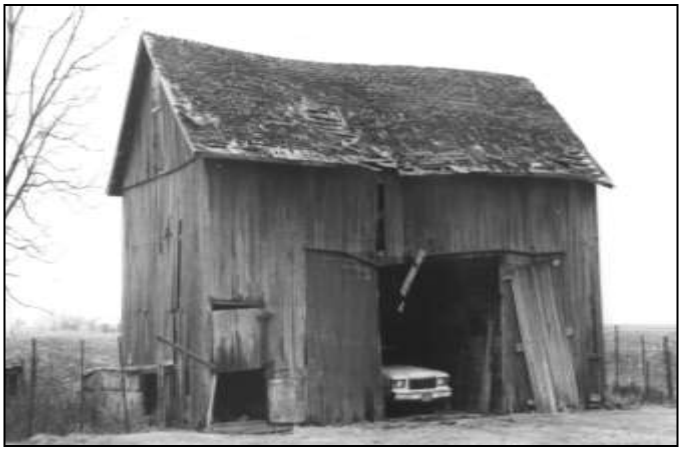
BARN CONDITION RATING

Good Condition
Foundation-Solid Walls-Solid
Structure-Sound Roof-Solid

Average Condition
Foundation-Solid Walls-Sound
Structure-Sound Roof-Sound

Fair Condition
Foundation-Cracked Walls-Intact
Structure-Stable Roof-Stable

Poor Condition
Foundation-Severely Ceracked Walls-Loose
Structure-Weakened Roof-Fairly stable



Poor Condition
Foundation-Uneven ~~and~~ & S~~s~~everely C~~c~~racked
Structure-Unstable Walls-Extremely loose
Roof-Unstable

Very Poor Condition
Foundation-Crumbled Walls-Limited to lone
Structure-Rotted or M~~m~~issing Roof-Collapsing

Contents

Tables

This chapter describes the concept of accrued depreciation as it pertains to assessing:

- Single-family residential structures
- Residential and agricultural yard structures

This chapter discusses how depreciation is used in the valuation process. It describes how the grade, age, and condition of a structure affect the determination of accrued depreciation. It provides step-by-step instructions for determining the depreciation percentage applicable to individual structures.

This chapter also provides step-by-step instructions for adjusting the standard residential depreciation table by neighborhood through the use of a neighborhood factor.

Depreciation Estimates

In estimating the cost new of the improvements, the assessing official has determined the upper limit of value the improvements will have on the valuation date. Depreciation is defined as the loss in value, from this upper limit, that the improvements on a parcel of real property suffer from a variety of causes. Those causes can be physical causes, functional causes, and external causes. These causes can operate individually or they can operate in combination with each other to cause a loss in value.

The **physical causes** refer to the wear and tear that an improvement suffers from its regular use. It may also be caused by abuse, the impact of the weather, and insect infestation such as termites. This type of loss in value is called physical deterioration.

Functional loss in value is caused by some type of inutility within the structure and materials or design that diminishes the ability of the structure to perform the function for which it was constructed and/or might be used. This type of loss in value is called functional obsolescence.

External obsolescence typically is impairment in the utility or salability of the structure due to negative influences that occur outside the property.

Depreciation may begin at the moment the structure is under construction and, in some cases though not often, a structure may suffer from substantial depreciation on the day that it is first occupied. These kinds of losses in value tend to come from poor design, poor construction, failure of the owner or contractor to consider such things as sub-soil conditions, suitability of building materials, design considerations, or other similar situations.

There is probably no issue that is less understood than the application of depreciation in the valuation of a structure. We tend to hear about depreciation in a wide variety of areas including accounting, income tax, public utility regulation, and of course valuation purposes. The appropriate calculation of depreciation remains as one of the single most important parts of arriving at a fair and equitable valuation for real property taxation purposes.

Because we are using the concept of replacement cost new minus depreciation derived from the market, much of the *functional obsolescence* is taken care of. *External obsolescence* will be accounted for through the **neighborhood factor**. There may be some extreme cases of *functional or external obsolescence* that may need to be handled on a case-by-case basis.

The determination of depreciation must consider:

- **a.** The **chronological age** of the structure
- **b.** The **effective age** of the structure

- **c.** The **quality** of the materials, workmanship, and design used in the construction of the structure
- **d.** The **condition rating** of the structure
- **e.** The **neighborhood factor**

Each of these factors, working in concert, determines the loss of value that a structure suffers.

Definitions

Chronological Age – The actual, sometimes called historical, age is the number of years that have elapsed since the building construction was completed up to the depreciation date, which is ~~March~~ January 1, 2019~~1~~. The chronological age of a structure has traditionally been used as a strong indicator of its depreciation. But this approach, while simple and easy to use, does not generally reflect the actions of the market in buying and selling decisions, or the actual loss in value suffered by the improvements.

Effective Age – The age of a structure as compared to other structures performing like functions. Sometimes it can also be thought of as the actual age of the structure less the years that have been removed from the actual age by such things as maintenance, repair, upgrading, and change. Effective age can also be decreased by the removal of some kind of functional inadequacy or the modernization of one or more of the systems. The items that would tend to reduce the effective age might include: new paint, carpeting, roof, furnace, electrical system, windows, plumbing, room additions or general home remodeling. For mass appraisal purposes and for the valuation of real property within the State of Indiana, the **condition rating** will reflect the effective age of the structures. The condition ratings will be discussed in the next section of this appendix.

Quality – See discussion of quality grading in ***Appendix A***.

Condition Rating – A rating assigned each structure that reflects its effective age in the market. It is determined by inspection of the structure and by relating the structure to comparable structures within the subject's neighborhood. Additional information on condition ratings can be found in ***Table B-1*** for residential structures and ***Table B-8*** for yard structures.

Neighborhood Factor – A factor determined by analyzing sales in each neighborhood. It adjusts the standard depreciation tables in this manual to meet market conditions within the neighborhood.

Condition Ratings

The condition and the economic life of a structure can be changed by maintenance and modernization. A residential structure has at the day it was brand new and first occupied an estimated total economic life. By changing, maintaining, or modernizing the structure, the age of the structure is effectively lowered, thereby the total economic life is extended. This change in economic life is reflected in the condition rating assigned the structure.

The effective age of the structure, as used in this manual, is expressed by the condition rating assigned to the structure. Generally, similar structures tend to depreciate at about the same rate over their economic lives. The way in which the owners maintain them can influence the pace of their depreciation. If structure "A" is maintained better than comparable structure "B", then the effective age of structure "A" will be less than that of structure "B". It is the condition of the structure that is the key to determining the effective age. Effective age may also be changed in a residential structure when remodeling takes place and the structure is updated, renovated, or when additional area is added which increases the structures functional utility.

Table B-1 on the next page lists the condition ratings to be assigned to residential structures, other than yard structures, and gives an explanation of the characteristics of each.

Table B-1— Residential Condition Ratings (other than yard structures)

Condition Rating	Explanation of Characteristics
Excellent	The structure is in like-new physical condition and has been well maintained. It has been modernized and updated and suffers from no inutilities. It is located in a premium location within the neighborhood.
Good	The structure has been maintained in better physical condition than the majority of the structures in the neighborhood and suffers from no deferred maintenance. It offers more amenities and has better utility than the majority of the structures in the neighborhood. It is in a better location within the neighborhood than the majority of structures.
Average	The structure has been maintained like and is in the typical physical condition of the majority of structures in the neighborhood. It offers the same utility as the majority of the structures in the neighborhood. It has the same location influences as the majority of structures in the neighborhood.
Fair	The structure suffers from minor deferred maintenance and demonstrates less physical maintenance than the majority of structures within the neighborhood. It suffers from minor inutilities in that it lacks an amenity that the majority of the structures in the neighborhood offer. It is in a less desirable location within the neighborhood than the majority of structures.
Poor	The structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures in the neighborhood offer. It is in a poor location within the neighborhood.
Very Poor	Conditions in the structure render it unusable. It is extremely unfit for human habitation or use. There is extremely limited market value in use and it is approaching abandonment. The structure needs major reconstruction to have any effective economic value.

Determining Depreciation for a Residential Structure

STEP 1. Determine the **quality grade** of the structure.

STEP 2. Determine the **condition rating** of the structure.

STEP 3. Determine the **chronological age** (actual age) of the structure.

STEP 4. Select the depreciation chart for the assigned quality grade.

STEP 5. On this depreciation chart, correlate the chronological age of the structure with its condition rating to find the percentage amount of depreciation.

STEP 6~~.~~ Enter the depreciation into the appropriate area on the property record card.

Determining the Neighborhood Factor

The assessing official must determine a neighborhood factor for the neighborhood in which the subject property is located. A neighborhood is defined as a geographical area exhibiting a high degree of homogeneity in residential amenities, land use, economic and social trends, and housing characteristics. In other words, it is the market or economic base for the subject property. The neighborhoods determined for establishing land values will be the same neighborhoods that are used in determining neighborhood factors for depreciation purposes.

The neighborhood factor accounts for the impact on value caused by physical characteristics in the neighborhood such as type and layout of streets, availability of support services, and utilities. It also takes in to account the economic characteristics such as demand for property and mortgage interest rates; governmental characteristics such as police protection, fire protection, and zoning; and social characteristics such as crime rates, owner-occupant ratios, and family size.

Neighborhood factors are assigned to each neighborhood based upon an analysis of residential properties that have sold within the neighborhood. This is done using the following procedures:

STEP 1~~.~~ Assemble the property record cards and disclosure statements on all improved residential properties that have sold with the neighborhood. ~~These sales should be drawn from a twenty-four (24) month period of time preceding the valuation date. For the 2011 reassessment this would be 1/1/09 to 12/31/10.~~The statewide cyclical reassessment begins July 1, 2018 for the 2019-Pay-2020 property taxes, and the next four (4) years. Starting July 1, 2018, assessing officials will re-assess approximately 25% of the parcels in their jurisdiction each year over a four year period.

STEP 2~~.~~ Edit the sales and remove any which are not representative of arm's-length transactions between a willing seller and willing buyer.

STEP 3~~.~~ For each of the remaining sales, subtract from the sale price the value of any personal property included in the transfer to arrive at the indicated sale price for the real property.

STEP 4~~.~~ Subtract the assigned land value from the indicated sale price of the real property to determine the sale price of the improvements.

STEP 5~~.~~ Locate the value for all improvements from the property record card for each property that sold.

STEP 6~~.~~ Calculate the total adjusted sale prices (improvements only) ~~and the total .~~
Replacement Cost New − Depreciation = Improvement Value ~~for all sales.~~

STEP 7~~.~~ Divide the total adjusted sale prices (Improvement Sale Price) by the total~~.~~ Improvement Value (IMP Value) to get the neighborhood factor.

STEP 8~~.~~ Apply the neighborhood factor to all residential improvements within the neighborhood as indicated on the property record card.

Example of Computing a Neighborhood Factor

SALE #	SALE PRICE	LAND VALUE	IMPROVEMENT SALE PRICE	RCN	DEPRECIATION	IMP VALUE
1	$100,000	$18,000	$82,000	$136,000	($36,000)	$100,000
2	$156,000	$20,000	$136,000	$174,000	($25,000)	$149,000
3	$122,000	$20,000	$102,000	$130,000	($15,000)	$115,000
4	$113,300	$15,000	$98,300	$138,000	($38,000)	$100,000
5	$103,000	$15,000	$88,000	$132,000	($32,000)	$100,000
6	$99,500	$15,000	$84,500	$122,000	($22,000)	$100,000
7	$100,000	$18,000	$82,000	$136,000	($26,000)	$110,000
8	$105,000	$18,000	$87,000	$138,000	($20,000)	$118,000
9	$110,000	$18,000	$92,000	$142,000	($20,000)	$122,000
10	$124,000	$18,000	$106,000	$157,000	($32,000)	$125,000
TOTALS			$957,800			$1,139,000

Divide the total adjusted sale prices (improvements only) by the total Improvement Value to get the neighborhood factor.

$957,800 ÷ $1,139,000 = .84 or 84%

Apply the neighborhood factor to all residential improvements within the neighborhood as indicated on the property record card.

Depreciation Tables for Residential Structures

This section provides instructions for using the Residential Depreciation Tables to determine the total deprecation percentage for a particular improvement. These tables are to be used on the following types of residential and agricultural improvements:

- dwelling units
- attached and detached garages
- stick-built room additions built between reassessments
- exterior features built between reassessments
- solar and geothermal heating and cooling systems

Note: Room additions to residential dwelling units valued in the "Summary of Residential Improvements" section of the property record card receive zero percent (0.00%) depreciation from the year of completion until the next general reassessment. At the time of the next general reassessment, the room addition will be considered part of the main structure and depreciated in the same manner as the main structure.

The total depreciation percentage for the improvements listed above is calculated by applying the following steps to the Residential Depreciation Tables:

STEP 1 Determine the proper table to use based on the Grade of the structure.

STEP 2 In the "Condition Rating" column, locate the row corresponding to the condition rating for the improvement.

STEP 3 In the "Actual Age" column, locate the row corresponding to the improvement's actual age.

STEP 4 Find the intersection of the selected row (age) and the selected column (condition rating). This number is the total depreciation percentage for the improvement.

Example: A thirty-two (32) year old C grade residence with a condition rating of good would have a total depreciation of twenty-four percent (24%).

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of an improvement are provided in the ***Completing the Summary of Residential Improvements*** section in Chapter 3.

The following pages give the standardized depreciation tables for the various quality grades of construction.

Table B-2.—Residential Depreciation Chart- Quality Grade “AAA” “AA” “A” “B”

RESIDENTIAL DEPRECIATION CHART - QUALITY GRADE “AAA” “AA” “A” “B”						
ACTUAL AGE	**CONDITION RATING**					
	Very Poor	**Poor**	**Fair**	**Average**	**Good**	**Excellent**
1	95	3	2	1	1	1
2	95	4	2	2	1	1
3	95	5	3	2	2	2
4	95	6	3	3	2	2
5	95	7	4	3	3	3
6	95	8	5	4	3	3
7	95	9	6	5	4	4
8	95	10	7	6	5	4
9	95	11	8	7	6	5
10	95	12	9	8	7	5
11	95	13	10	9	7	6
12	95	14	11	10	8	6
13	95	15	12	11	9	7
14	95	16	13	12	9	7
15	95	17	14	13	10	8
16	95	18	15	14	11	8
17	95	20	16	15	12	9
18	95	21	17	16	12	9
19	95	22	18	16	13	10
20	95	25	20	17	14	11
21-25	95	26	22	19	15	12
26-30	95	28	24	22	17	13
31-35	95	30	26	24	19	14
36-40	95	34	28	26	20	15
41-45	95	38	30	28	22	16
46-50	95	40	35	30	24	17
51-60	95	45	40	35	25	18
61-70	95	48	43	38	28	19
Over 70	95	50	45	40	30	20

Table B-3.—Residential Depreciation Chart- Quality Grade "C"

RESIDENTIAL DEPRECIATION CHART - QUALITY GRADE "C"						
ACTUAL AGE	CONDITION RATING					
	Very Poor	Poor	Fair	Average	Good	Excellent
1	95	5	3	2	1	1
2	95	8	4	2	2	1
3	95	10	5	3	2	2
4	95	11	6	3	3	2
5	95	12	7	4	3	3
6	95	14	8	5	4	3
7	95	15	9	6	5	4
8	95	16	10	7	6	5
9	95	17	11	8	7	6
10	95	18	12	9	8	7
11	95	20	13	10	9	7
12	95	21	14	11	10	8
13	95	22	15	12	11	9
14	95	23	16	13	12	9
15	95	24	17	14	13	10
16	95	25	18	15	14	11
17	95	26	20	16	15	12
18	95	27	21	17	16	12
19	95	28	22	18	16	13
20	95	29	25	20	17	14
21-25	95	30	26	22	19	15
26-30	95	32	28	24	22	17
31-35	95	36	30	26	24	19
36-40	95	40	34	28	26	20
41-45	95	45	38	30	28	22
46-50	95	50	40	35	30	24
51-60	95	55	45	40	35	25
61-70	95	60	47	42	37	28
Over 70	95	65	50	45	40	30

Table B-4.—Residential Depreciation Chart- Quality Grade “D” “E”

RESIDENTIAL DEPRECIATION CHART - QUALITY GRADE “D” “E”						
ACTUAL AGE	**CONDITION RATING**					
	Very Poor	**Poor**	**Fair**	**Average**	**Good**	**Excellent**
1	95	8	5	3	2	1
2	95	11	8	4	2	2
3	95	12	10	5	3	2
4	95	14	11	6	3	3
5	95	15	12	7	4	3
6	95	17	14	8	5	4
7	95	19	15	9	6	5
8	95	21	16	10	7	6
9	95	23	17	11	8	7
10	95	26	18	12	9	8
11	95	28	20	13	10	9
12	95	30	21	14	11	10
13	95	32	22	15	12	11
14	95	34	23	16	13	12
15	95	36	24	17	14	13
16	95	38	25	18	15	14
17	95	40	26	20	16	15
18	95	42	27	21	17	16
19	95	44	28	22	18	16
20	95	46	29	25	20	17
21-25	95	48	30	26	22	19
26-30	95	50	32	28	24	22
31-35	95	52	36	30	26	24
36-40	95	54	40	34	28	26
41-45	95	56	45	38	30	28
46-50	95	58	50	40	35	30
51-60	95	65	55	45	40	35
61-70	95	70	60	47	42	37
Over 70	95	75	65	50	45	40

Determining the Depreciation Percentage for Residential Yard Structures

This section provides instructions for using the various depreciation tables applicable to residential and agricultural yard structures. Refer to ***Table B-5. Determining the Depreciation Table for Yard Structures***, to determine which depreciation table is applicable to the type of structure you are appraising. After determining the appropriate depreciation table, refer to the appropriate section below for specific instructions on using that table.

Table B-5.—Determining the Depreciation Table for Yard Structures

Yard Structure	Depreciation Table
Barns and sheds other than confinement facilities	30 year life expectancy
Bath houses	30 year life expectancy
Boat houses	30 year life expectancy
Car sheds	30 year life expectancy
Chicken, duck, turkey barns	20 year life expectancy
Confinement facilities	20 year life expectancy
Containment walls	40 year life expectancy
Corn cribs, wire and frame	30 year life expectancy
Fire-resistant construction	40 year life expectancy
Garage, attached and detached	Residential Depreciation Schedule (by *Grade*)
Gazebos	30 year life expectancy
Grain storage bins	20 year life expectancy
Granaries	30 year life expectancy
Greenhouses, residential	20 year life expectancy
Lean-to's	30 year life expectancy
Milk houses	30 year life expectancy
Milk parlors	30 year life expectancy
Mobile home park improvements (except pool and mobile homes)	40 year life expectancy
Paving, asphalt	20 year life expectancy
Paving, concrete	20 year life expectancy
Potato storage structures	30 year life expectancy
Poultry houses, non-confinement	30 year life expectancy
Quonset buildings	30 year life expectancy
Sheds, residential	20 year life expectancy

Silos, masonry and steel	30 year life expectancy
Silos, trench and bunker	30 year life expectancy
Slurry tanks	30 year life expectancy
Solar and Geothermal units	Residential Depreciation Schedule (by *Grade*)
Stables	30 year life expectancy
Swimming pools and pool enclosures, in-ground	In-ground Swimming Pool Table
Swimming pools, above-ground	Above-ground Swimming Pool Table
Tennis courts	30 year life expectancy
Tobacco barns	30 year life expectancy

Table B-6 lists the condition ratings to be assigned to yard structures, and gives an explanation of the characteristics of each.

Table B-6.—Condition Ratings for Yard Structures

Classification	Indicated Depreciation
Excellent	The structure is in like-new physical condition and has been well maintained. It has been modernized and updated and suffers from no inutilities.
Good	The structure has been maintained in better physical condition than the majority of structures of its type and suffers from no deferred maintenance. It offers more amenities and has better utility than the majority of the structures of its design.
Average	The structure has been maintained like and is in the typical physical condition of the majority of structures of its type. It offers the same utility as the majority of the structures of its design.
Fair	The structure suffers from minor deferred maintenance and demonstrates less physical maintenance than the majority of structures of its type. It suffers from minor inutilities in that it lacks amenities that the majority of structures of its design offer.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its design offer. However, it is still being put to some use.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is at the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer.
* Sound Value (applies to agricultural improvements only)	Regardless of the physical condition of the structure, the economics of farming dictate this structure is no longer productive in the operation of the farm. Therefore, it has only minimal, or sound value, on the date of valuation.

* Structures that are no longer used in farming operations because the economics of modern farming dictate their abandonment should receive a sound value structure condition classification. However, if an individual property owner has made a decision not to use the structure for personal reasons but other farmers in the area are using similar structures, it should be assigned a structure condition classification between excellent and very poor.

If a sound value condition classification is given, the assessing official is not required to estimate the replacement cost new and depreciation for the structure. The sound value is a lump sum amount that is entered in the Improvement Value column in the "Summary of Non-Residential Improvements" section of the PRC with an entry of "SV" (sound value) made in the "Condition" column. The sound value ranges for the various types of farm structures are given at the end of the cost schedule for each type.

Using the Life Expectancy Depreciation Tables

There are three (3) life expectancy depreciation tables for residential and agricultural yard structures. In order to use these tables you must determine:

- which life expectancy table to use
- the age of the yard structure
- the condition of the yard structure

To determine the total depreciation percentage for a yard structure that uses one of the life expectancy tables, perform the following steps:

STEP 1 In the "Actual Age" column of the appropriate life expectancy table, locate the row corresponding to the yard structure's actual age.

STEP 2 Locate the column below the "Condition" heading that corresponds to the condition rating selected for the yard structure.

STEP 3 Find the intersection of the selected row (actual age) and the selected column (condition). This number is the total depreciation percentage for the yard structure.

Example: A residential greenhouse is 12 years old and is in good condition. The 20-year Life Expectancy Depreciation Table indicates the total depreciation percentage for the greenhouse is thirty percent (30%).

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a residential or agricultural yard structure are provided in the section ***Task 4 - Calculating the Remainder Value*** in Chapter 5.

Table B-7.—20 YEAR LIFE EXPECTANCY

Actual Age	Condition					
	EX	G	AV	F	P	VP
01	5	5	5	10	15	20
02	5	5	10	15	20	25
03-04	5	10	15	20	25	30
05-06	10	15	20	25	30	35
07-08	10	20	25	30	35	40
09-10	15	25	30	35	40	45
11-12	20	30	35	40	45	50
13-14	25	35	40	45	50	55
15-16	30	40	45	50	55	60
17-20	35	45	50	55	60	65
21-26	40	50	55	60	70	75
27-30	45	55	60	65	75	80
Over 30	50	60	65	70	80	85

Residential utility sheds and greenhouses, asphalt and concrete paving, hog confinement facilities, veal confinement facilities, poultry confinement buildings, trench and bunker silos, steel grain bins, slurry tanks, masonry and steel silos and chicken, duck or turkey barns.

Table B-8.—30 YEAR LIFE EXPECTANCY

Actual Age	Condition					
	EX	G	AV	F	P	VP
01-02	5	5	5	10	15	20
03-04	5	5	10	15	20	25
05-06	5	10	15	20	25	30
07-10	10	15	20	25	30	35
11-13	10	20	25	30	35	40
14-16	15	25	30	35	40	45
17-19	20	30	35	40	45	50
20-22	25	35	40	45	50	55
23-26	30	40	45	50	55	60
27-32	35	45	50	55	60	65
33-41	40	50	55	60	70	75
42-46	45	55	60	65	75	80
Over 46	50	60	65	70	80	85

Stables, boat houses, gazebos, car sheds, bath houses, tennis courts, all barns and sheds (type-1, type-2 and type-3),
lean-tos, granaries, wire and frame corn cribs, milk houses, milk parlors, tobacco barns, quonset buildings, potato storage structures and non-confinement poultry houses.

Table B-9.—40 YEAR LIFE EXPECTANCY

ACTUAL AGE	CONDITION					
	EX	G	AV	F	P	VP
01-03	5	5	5	10	15	20
04-06	5	5	10	15	20	25
07-09	5	10	15	20	25	30
10-13	10	15	20	25	30	35
14-17	10	20	25	30	35	40
18-21	15	25	30	35	40	45
22-25	20	30	35	40	45	50
26-30	25	35	40	45	50	55
31-35	30	40	45	50	55	60
36-44	35	45	50	55	60	65
45-55	40	50	55	60	70	75
56-61	45	55	60	65	75	80
Over 61	50	60	65	70	80	85

Fire resistant construction.

Using the Swimming Pool Depreciation Tables

There are two (2) swimming pool depreciation tables. In order to use these tables you must first determine the following:

- which table to use
- the age of the swimming pool

Swimming pools that are designed and manufactured to stand alone without side support from surrounding ground are classified as above ground and are depreciated using the **Above Ground Swimming Pool Depreciation Table**. Swimming pools with the water level at or below the surrounding earth grade are depreciated using the **In-Ground Swimming Pool and Pool Enclosure Depreciation Table**.

The actual age of the swimming pool on the date of the general reassessment is to be used. Should the pool show excessive deferred maintenance for its actual age, an effective age of six (6) years less than the pool's construction age should be used to determine depreciation.

~~**Note:** Swimming pools are only depreciated during the general reassessment year; no further depreciation is to be applied until the next general reassessment.~~

To determine the total depreciation percentage for a swimming pool, perform the following steps:

STEP 1: In the "Age" column of the appropriate depreciation table, locate the row corresponding to the swimming pool's actual age or effective age.

STEP 2: Find the intersection of the selected row (age) and the "Depreciation" column. This number is the total depreciation percentage for the swimming pool.

Example: An in-ground swimming pool is nine (9) years old. The In-Ground Swimming Pool and Pool Enclosure Depreciation Table indicates the total depreciation percentage for the swimming pool is twenty-five percent (25%).

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a swimming pool are provided in the section ***Task 4 - Calculating the Remainder Value*** in Chapter 5.

The above ground and below ground swimming pools, the 20 year, the 30 year, and the 40 year life expectancy tables are included in ***Appendix C***.

Table B-10.—ABOVE GROUND SWIMMING POOL

DEPRECIATION TABLE

AGE	DEPRECIATION
1	8
2	16
3	24
4	32
5	40
6	48
7	56
8	64
9	72
10	80
Over	80-85

Physical and functional condition may contribute to an acceleration of the pool's age.

Table B-11.—SWIMMING POOL and POOL ENCLOSURE DEPRECIATION TABLE

Price swimming pool from standard schedule and depreciate on the basis of a twenty-five (25) year life expectancy, as follows:

AGE	DEPRECIATION
0-2	5
3-4	10
5-6	15
7-8	20
9	25
10	30
11-12	35
13-14	40
15-16	50
17-18	55
19-20	60
21-22	65
23-25	70
Over 25	75-85

Physical and functional condition may contribute to an acceleration of the pool's age.

Contents

Overview General Commercial Models

This appendix contains descriptions of the general commercial models. The purpose of the descriptions is to assist the user in determining if adjustments are applicable to account for variations between the subject improvement and the model selected to compute its replacement cost new. Photographs are also included to assist the user in classifying subject improvements.

The purpose of the models is to facilitate the user in estimating the replacement cost new of subject improvements as of the effective valuation date to serve as the starting point in the application of the cost approach to value for ad valorem tax purposes. The system is designed to accommodate the assessment process. The test of the assessor's estimate of replacement cost is not contingent upon the valuation of any one construction component but rather in its approximation to the actual construction cost of the subject improvement.

The models, based upon occupancy type, are divided into three major categories:

- General Commercial Mercantile (GCM)
- General Commercial Industrial (GCI)
- General Commercial Residential (GCR)

Note: The fourth model, General Commercial Kit (GCK) is not based upon occupancy type and therefore the following information is not relevant to it use:

The foundation, framing and basic shell construction are category-specific, with floor and roof loads, doors, fenestration and store fronts typical of the occupancy. Floor heights, interior finish and mechanical features are model-specific. The following construction specifications are formatted accordingly with the basic shell components applicable to all the models within the category presented first and followed by the specifications applicable to each individual occupancy model. The following applies:

(1) The valuation models were developed by the application of the ~~Segregated Cost and Unit-in-Place Cost Section of the Marshall Valuation Service~~Craftsman National Building Cost Estimator.

(2) All components reflect the average cost of materials and workmanship unless otherwise specified

(3) All model designs are plain and void of architectural treatment. Any allowance for additional costs associated with wall cuts, roof breaks, split elevations and other such design features are not built into any of the models and must be considered in the design classification assigned to the subject.

(4) The General Commercial Residential (GCR) models are only applicable to wood or metal stud framed load bearing construction, regardless of story height. Masonry construction requires the application of either GCM or GCI models.

(5) **Floor height** is model-specific and represent floor-to-floor or roof-to-roof heights herein defined as the vertical distance form the top of the floor to either the top of the next upper floor or to the eave of the roof, to the nearest one foot. Note that in the case of single pitched (shed type) roofs, the distance is measured to the lowest eave line. Variations in the roof pitch must be considered in the design classification assigned to the subject.

(6) **Dock floor** additives are applicable to GCI and certain specified GCM models to account for variations in grade-to-ground floor height herein defined as the average vertical distance from finished grade to the top of the ground floor, to the nearest one foot.

(7) **Interior finish** cost coefficients are itemized in ***Schedule C*** and are user modifiable by application of the Unit Cost Adjustments provided in ***Schedule C***. Note that the cost component for partitions includes built-in features typical of the occupancy.

(8) **Division walls**, herein are defined as any interior wall which serves to divide an area into private individually useable (rentable) units, are not included in any of the models except apartments, motels and hotels for which division walls are accounted for in the additives for unit finish. The cost for partitions itemized in ***Schedule C*** does not include an allowance for division walls.

(9) **The Stand Alone Basement** model is applicable to either basement extensions projecting beyond the upper floor perimeter walls or an underground (basement-like) structure standing alone without an upper floor. The difference between this model and a basement under an upper floor is the inclusion of the ground slab, and foundation walls and footer otherwise included in the first floor model. Caution should be exercised to assure that the structural floor slab is not duplicated as a yard improvement such as paving.

(10) **Access stairs** typical of the occupancy are included in all basement and upper floor models.

General Commercial Mercantile Models

This section describes the general commercial mercantile models (GCM).

GCM Basic Shell Components

Site Preparation	Typical grading for a level site applicable to the ground floor area; bulk excavation applicable to basement area.
FOUNDATION	
Wall types-1, 2, and 4	Concrete grade walls on concrete spread footings to support load bearing construction; concrete column footings and grade beams to support framed construction, perimeter insulation.
FRAME	
Type-1	Wood and/or timber beams and columns; interior wood or steel floor and/or roof supports.
Type-2	Steel beams and columns; steel pipe floor and/or roof supports.
Type-3	Reinforced concrete beams and columns.
Type-4	Fire-proofed steel beams and columns.
EXTERIOR WALLS	
Type-1 Basement	Concrete block, waterproofing, insulation at finished areas.
Type-2 Basement	Concrete, waterproofing, insulation at finished areas.
Type-1 Upper	8″ concrete block curtain walls; 12″ load bearing concrete block walls; painted exterior; Tilt-up panels, 5″- 6″, gray; add for each 2″ of additional thickness; add for textured finishes
Type-2 Upper	8″ brick on concrete block back-up curtain walls; 12″ brick on concrete block back-up load bearing walls.
Type-4 Upper	4′ concrete panel guard walls 2′-6″ high.
Ground Floor	Concrete slab with wire mesh reinforcing at grade level, vapor barrier.
STRUCTURAL FLOORS	
Type-1 Frame	Wood sub-floor on wood joists.
Type-2 Frame	Concrete on corrugated metal deck and steel joists.
Type-3 Frame	Concrete slab and joists.
Type-4 Frame	Concrete slab on steel joists.

ROOF STRUCTURE	
Type-1 Frame	Flat roof, wood or composition deck on wood joists.
Type-2 Frame	Flat roof, steel deck on steel joists.
Type-3 Frame	Flat roof, concrete slab on concrete joists.
Type-4 Frame	Flat roof, steel deck on steel joists.
Roofing	Composition roofing, insulation
Interior Finish	See Occupancy Model - specific Components
Mechanical Features	See Occupancy Model - specific Components

MODEL	GCM APARTMENTS
Floor Height	10'
Finish Type	Finished divided, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Two coats of paint on drywall, wood or metal furring
Flooring	30%vinyl composition tile; 65% carpet and pad; 5% ceramic tile
Ceiling	Taped and painted drywall on wood ceiling joists or metal channel supports
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of apartments.
HVAC	Heating only
Heating Only	Gas fired forced air
Cooling Additive	Add for air conditioning for one unit only from the Schedule C "Add for A.C." column. Air conditioning in multiple units is valued using the unit finish adjustment.
Plumbing	Not included. Plumbing is valued with the application of the unit finish adjustment.
Notes	Kitchen built-ins, plumbing and air conditioning are included by the application of the unit finish adjustment

MODEL	GCM AUTO SERVICE
Floor Height	14'
Finish Type	Semi-finished , 14' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Masonry paint, two coats
Flooring	10% vinyl composite tile; 90% concrete hardener
Ceiling	10% suspended mineral fiber acoustical tile; 90% paint on underside of roof structure
Partitions	Masonry partitions
Lighting	Average cost installation typical of auto service centers
Heating Only	Suspended gas fired radiant heaters
Cooling Additive	Package units
Plumbing	Bibs and drains
Notes	10% office and toilet room area

MODEL	GCM AUTO SHOWROOM
Floor Height	14'
Finish Type	Finished open, 12' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal furring
Flooring	Vinyl tile
Ceiling	Acoustical tile on ceiling structure
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of finished open auto showrooms
HVAC	Zoned air conditioning warm and cooled air
Heating Only	Forced air.
Cooling Additive	N/A
Plumbing	Not included
Notes	Exterior walls include expansive plate glass windows typical of the occupancy

MODEL	GCM BANK
Floor Height	14'
Finish Type	Finished divided, 12' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood or metal furring
Flooring	95% carpet and pad; 5% terrazzo or equal
Ceiling	Suspended acoustical tile
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM Bowling Alley
Floor Height	14'
Finish Type	Finished open, 12' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal furring
Flooring	10% vinyl tile; 15% carpet and pad; 75% unfinished lane areas
Ceiling	95% suspended acoustical tile
Partitions	Wood frame interior construction typical of bowling alleys
Lighting	Low to average cost installation typical of bowling alleys
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM CAR WASH (AUTOMATIC)
Floor Height	12'
Finish Type	Semi-finished, 12' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Paint on masonry
Flooring	Unfinished
Ceiling	Unfinished
Partitions	Masonry partitions
Lighting	Average cost installation typical of occupancy
HVAC	Heating only
Heating Only	Space heaters with fan
Cooling Additive	N/A
Plumbing	Bibs and drains

MODEL	GCM CONVENIENCE MARKET
Floor Height	12'
Finish Type	Finished open, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood or metal furring, 10% painted masonry
Flooring	90% vinyl tile, 10% unfinished
Ceiling	90% suspended acoustical tile, 10% unfinished
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	10% of area is unfinished stock room

MODEL	GCM COUNTRY CLUB
Floor Height	12'
Finish Type	Finished divided, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood or metal furring
Flooring	50% carpet and pad, 30% hardwood on sleepers, 20% ceramic or quarry tile
Ceiling	Taped and painted drywall on metal or wood furring
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM DINING/LOUNGE
Floor Height	10' basement; 12' upper floor
Finish Type	Finished open, 8' ceiling height in basement, 10' ceiling height in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted drywall on wood or metal furring
Flooring	75% carpet and pad; 10% parquet with wood sleepers, 15% quarry and/or ceramic tile
Ceiling	Acoustical tile, mineral fiber, including suspension system
Partitions	Wood and masonry interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM Funeral Home
Floor Height	12'
Finish Type	Finished divided, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	70% carpet and pad; 30% vinyl
Ceiling	Suspended acoustical tile of mineral fiber
Partitions	Wood frame construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM HEALTH CLUB
Floor Height	12'
Finish Type	Finished open, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal or wood furring
Flooring	45% carpet and pad; 10% ceramic tile; 5% vinyl tile; 40% unfinished to courts
Ceiling	Suspended acoustical tile, mineral fiber over 60% of the floor area
Partitions	85% wood and 15% masonry interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Packaged air conditioning
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	Additives for racquetball and squash courts apply

MODEL	GCM HOTEL/MOTEL SERVICE
Floor Height	12'
Finish Type	Finished divided, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted drywall on metal or wood furring
Flooring	75% carpet and pad; 10% parquet, 15% quarry or ceramic tile
Ceiling	Suspended acoustical tile of mineral fiber
Partitions	Masonry interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM HOTEL/MOTEL UNITS
Floor Height	10'
Finish Type	Finished divided, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal furring
Flooring	80% carpet and pad; 10% vinyl tile; 10% ceramic tile
Ceiling	Painted drywall on furring
Partitions	20% masonry and 80% wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	Plumbing is included by the application of the unit finish adjustment

MODEL	**GCM Ice Rink**
Floor Height	18'
Finish Type	Semi-finished, 18' floor height
Interior Finish and Mechanical Features	
Walls	Painted masonry
Flooring	40% vinyl tile & rubber mat; 20% painted; 40% unfinished
Ceiling	Suspended mineral fiber acoustical tile over 40% of area
Partitions	Masonry partitions typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Heating only
Heating Only	40% forced air, 20% suspended gas fired unit heaters
Cooling Additive	N/A
Plumbing	Not included

MODEL	**GCM Nursing Home**
Floor Height	10'
Finish Type	Finished divided; 8' ceiling height
Interior Finish and Mechanical Features	
Walls	Taped and painted drywall on wood or metal furring
Flooring	50% carpet and pad; 45% vinyl tile; 5% ceramic tile
Ceiling	Painted drywall on ceiling supports
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	**GCM General Office**

Floor Height	10' basement; 12' upper floors
Finish Type	Finished divided; 8' ceiling height in basement, 10' ceiling height in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood or metal furring
Flooring	Basement - vinyl tile. Upper - 95% carpet and pad; 5% ceramic or quarry tile
Ceiling	Acoustical tile of organic fiber including suspension system
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM MEDICAL OFFICE
Floor Height	12' first floor; 11' upper floors
Finish Type	Finished divided; 10' ceiling height first floor, 9' ceiling height in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood or metal furring
Flooring	95% carpet and pad; 5% ceramic or quarry tile
Ceiling	Acoustical tile, mineral fiber including suspension system
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM PARKING GARAGE

Floor Height	8' basements; 10' upper floors
Finish Type	Unfinished
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	Masonry interior construction typical of parking structures
Lighting	Average cost flexible conduit, minimal illumination typical of unfinished areas
HVAC	Ventilation only
Heating Only	N/A
Cooling Additive	N/A
Plumbing	Not included
Special Treatment	Type 4 walls applicable to upper floor models consist of 4" concrete panel guard walls 2'6" high
Notes	(1) Stall stripping, curbing, lane markings, arrows and directional signs, ramps and access ways typical of occupancy are included in the model. (2) Sub-basements include an allowance for grade walls excluded from the basement models.

MODEL	GCM GENERAL RETAIL
Floor Height	12' basement; 14' first floor: 12' upper floors
Finish Type	Finished open; 10' ceiling height in basement, 12' ceiling height in first floor: 10' ceiling height in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal or wood furring
Flooring	85% of floor area is vinyl tile, 15% unfinished
Ceiling	85% of ceiling area is acoustical tile of mineral fiber including suspension system; 15% unfinished
Partitions	Wood frame interior construction typical of occupancy
Lighting	85% average cost installation typical of occupancy, 15% above average cost installation typical of unfinished areas

HVAC	Packaged units with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	15% unfinished stock area

MODEL	**GCM DEPARTMENT STORE**
Floor Height	16' first floor, 14' upper floors
Finish Type	Finished open; 14' ceiling height in first floor, 12' ceiling height in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal or wood furring; 20% unfinished storage and service area
Flooring	40% vinyl tile, 35% above average cost carpeting, 5%ceramic or quarry tile, 20% unfinished
Ceiling	80% acoustical tile of mineral fiber, including suspension system; 20% unfinished
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	20% unfinished storage and service areas

MODEL	**GCM DISCOUNT STORE**
Floor Height	14'
Finish Type	Finished open; 12' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal or wood furring; 20% unfinished stock area
Flooring	40% vinyl tile, 40% average cost carpeting; 20% unfinished
Ceiling	80% acoustical tile of mineral fiber including suspension system; 20%

	unfinished
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of discount stores
HVAC	Packaged heating and cooling system
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	20% unfinished storage and service areas

MODEL	**GCM Neighborhood Shopping (Strip) Center**
Floor Height	14"
Finish Type	Finished open; 12" ceiling height
Interior Finish and Mechanical Features	
Walls	80% taped and painted drywall on furring; 20% two coats masonry paint in stock area
Flooring	40% vinyl tile, 40% average grade carpeting; 20% unfinished
Ceiling	80% acoustical tile of organic fiber including suspension system; 20% unfinished
Partitions	Wood frame interior construction typical of occupancy and exclusive of division walls
Lighting	80% average cost installation typical of neighborhood strip center stores; 20% average cost flexible conduit with minimal fluorescent fixtures typical of unfinished storage areas
HVAC	Packaged heating and cooling system
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	20% unfinished stock areas

MODEL	**GCM Regional Shopping Center Mall Shops**
Floor Height	14"

Finish Type	Finished open; 12′ ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	80% taped and painted drywall on furring; 20% two coats masonry paint in stock area
Flooring	30% vinyl tile, 40% average grade carpeting; and 10% ceramic or quarry tile; 20% unfinished
Ceiling	80% acoustical tile of organic fiber and including suspension system; 20% unfinished
Partitions	Wood frame interior construction typical of occupancy and exclusive of division walls
Lighting	80% average cost installation typical of occupancy; 20% average cost flexible conduit with minimal fluorescent fixtures typical of unfinished storage areas
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	20% unfinished stock areas

MODEL	STAND-ALONE BASEMENT
Floor Height	9′
Finish Type	Unfinished
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	6″ concrete block at 1% density
Lighting	Average cost nonmetallic wiring and minimal illumination typical of unfinished areas
HVAC	Heating only
Heating Only	Space heaters with fan
Cooling Additive	Evaporated coolers
Plumbing	Not included

MODEL	GCM SUPERMARKET
Floor Height	14'
Finish Type	Finished open; 12' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	80% taped and painted drywall on furring; 20% two coats masonry paint in stock area
Flooring	60% vinyl tile, balance unfinished to shelving
Ceiling	Acoustical tile of mineral fiber and including suspension system
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Packaged heating and cooling system
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included
Notes	20% unfinished stock areas

MODEL	GCM THEATER
Floor Height	20'
Finish Type	Finished open; 18' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on furring
Flooring	90% average cost carpet and pad; 10% terrazzo or equal
Ceiling	Suspended acoustical tile of mineral fiber
Partitions	Average cost masonry interior construction typical of motion picture theaters
Lighting	Average cost installation typical of motion picture theaters
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCM UTILITY STORAGE
Floor Height	Basement - 9'; First - 14'; Upper Floors - 12'
Finish Type	Unfinished at variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	6" concrete block at 1% density
Lighting	Average cost nonmetallic wiring and minimal illumination typical of unfinished areas
HVAC	Heating only
Heating Only	Space heaters with fan
Cooling Additive	Evaporated coolers
Plumbing	Not included

General Commercial Industrial Models

This section describes the general commercial industrial models (GCI).

GCI Basic Shell Components

Site Preparation	Typical grading for a level site applicable to the ground floor area; bulk excavation applicable to basement area.
Foundation	Reinforced concrete column footings and grade beams; perimeter insulation.
FRAME	
Type-1	Wood and/or timber beams and columns.
Type-2	Steel beams and columns.
Type-3	Reinforced concrete beams and columns.
Type-4	Fire-proofed steel beams and columns.
EXTERIOR WALLS	
Type-1 Basement	Reinforced concrete block, waterproofing, insulation at finished areas.
Type-2 Basement	Reinforced concrete, waterproofing, insulation at finished areas.
Type-1 Upper	8" concrete block with painted exterior; Tilt-up panels, 5"- 6", gray; add for each 2" of additional thickness; add for textured finishes.
Type-2 Upper	8" common brick on concrete block back-up.
Type-3 Upper	Aluminum or metal siding on steel framing, insulation.
Ground Floor	Reinforced concrete slab at grade level, vapor barrier.
STRUCTURAL FLOORS	
Type-1 Frame	Wood sub-floor on wood joists.
Type-2 Frame	Reinforced concrete on metal deck and steel joists.
Type-3 Frame	Reinforced concrete flat slab and joists.
Type-4 Frame	Reinforced concrete on metal deck and steel joists.
ROOF STRUCTURE	
Type-1 Frame	Flat roof, wood or composition deck on wood joists.
Type-2 Frame	Flat roof, steel deck on steel joists; open steel frame for low profile gabled roof.
Type-3 Frame	Flat roof, concrete slab on concrete joists.
Type-4 Frame	Flat roof, steel deck on steel joists.

Roofing	Composition roofing, insulation for flat roofs; corrugated aluminum or steel for gabled roofs.
Interior Finish	See occupancy model - specific components
Mechanical Features	See occupancy model - specific components

MODEL	GCI COMMERCIAL GARAGE
Floor Height	14'
Finish Type	Unfinished; 14' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Concrete hardener
Ceiling	Unfinished
Partitions	6" hollow concrete block at a density of 100 square feet of floor per linear foot of partition, hollow metal doors, masonry paint on one side
Lighting	Average cost installation typical of occupancy
HVAC	Gas-fired unit heaters with fan, ventilation with ducts and blowers
Heating Only	Gas-fired unit heaters with fan
Cooling Additive	Evaporative coolers
Plumbing	Bibs and floor drains (1/1000 SF)

MODEL	GCI HANGAR
Floor Height	20'
Finish Type	Unfinished; 20' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Concrete hardener
Ceiling	Unfinished
Partitions	6" hollow concrete block at a density of 100 square feet of floor per linear foot of partition, hollow metal doors, masonry paint on one side
Lighting	Average cost installation typical of occupancy

HVAC	Gas fired unit heaters, ventilation with ducts and blowers
Heating Only	Gas-fired unit heaters with fan
Cooling Additive	Evaporative coolers
Plumbing	Bibs and floor drains (1/3200 SF)

MODEL	**GCI LIGHT MANUFACTURING**
Floor Height	Basement - 9', first floor - 14', upper floors - 12'
Finish Type	Semi-finished; variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted interior walls
Flooring	Concrete hardener
Ceiling	Unfinished
Partitions	8" solid concrete block painted both sides with a density of 60 square feet of floor per linear foot of partitioning and including 5% single leaf hollow metal and fire doors
Lighting	Average cost installation typical of occupancy
HVAC	Forced air heating, ventilation with ducts and blowers
Heating Only	Gas-fired forced air
Cooling Additive	Package units, short ducts
Plumbing	Bibs and floor drains (1/3200 SF)

MODEL	**GCI HEAVY MANUFACTURING**
Floor Height	Basement - 9' high; first floor - 14'; upper floors - 12'
Finish Type	Semi-finished, variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted interior walls
Flooring	Concrete hardener
Ceiling	Unfinished
Partitions	8" solid concrete block painted both sides with a density of 60 square feet of floor per linear foot of partitioning and including 5% single leaf hollow metal and fire doors

Lighting	Average cost installation typical of light manufacturing occupancies
HVAC	Forced air heating, ventilation with ducts and blowers
Heating Only	Gas-fired forced air
Cooling Additive	Package units, short ducts
Plumbing	Bibs and floor drains (1/3200 SF)
Notes	Above average cost foundations, frame and floor and roof structures to support heavy floor load capacity and structural stress

MODEL	GCI LOFT MANUFACTURING
Floor Height	12'
Finish Type	Semi-finished; 12' floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	2 coats of masonry paint
Flooring	Unfinished
Ceiling	Unfinished
Partitions	8" solid concrete block with one side of masonry paint for a height of 12' and a density of 50 square feet of floor per linear foot of partition
Lighting	Average cost installation typical of lofts
HVAC	Gas-fired unit heaters and ventilation with ducts and blowers
Heating Only	Gas-fired unit heaters with fans
Cooling Additive	Packaged unit, short ducts
Plumbing	Not included
Notes	This model is applicable to multi-story industrial facilities typical of older style load-bearing masonry construction

MODEL	GCI MILL MANUFACTURING
Floor Height	40'
Finish Type	Semi-finished; 40' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted interior walls
Flooring	Heavy duty concrete hardener

Ceiling	Unfinished
Partitions	8" concrete block painted both sides with a density of 60 square feet of floor per linear foot of partitioning and includes 5% single leaf hollow metal and fire doors
Lighting	Average cost installation typical of heavy manufacturing occupancies
HVAC	Gas-fired forced air, ventilation with ducts and blowers
Heating Only	Gas-fired forced air
Cooling Additive	Package units, short ducts
Plumbing	Bibs and floor drains (1/3200 SF)
Notes	High cost foundation, frame, floor and roof structure to support extra heavy floor load capacity and structural stress.

MODEL	**GCI INDUSTRIAL OFFICE**
Floor Height	12'
Finish Type	Finished divided, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal or wood furring for a 10' ceiling height
Flooring	65% vinyl tile, 25% carpet and pad, 10% ceramic or quarry tile
Ceiling	Acoustical tile of mineral fiber and including a suspension system
Partitions	Wood frame interior construction typical of finished divided office occupancies
Lighting	Average cost installation typical of divided office areas
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Gas-fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	**GCI POWER GENERATING PLANT**
Floor Height	30' [See note (2)]
Finish Type	Semi-finished, 30' floor height [See note (2)]
INTERIOR FINISH AND MECHANICAL FEATURES	

Walls	Painted interior walls
Flooring	30% quarry tile, 70% concrete floor hardener
Ceiling	Painted undercoating of floor and roof structures
Partitions	Average cost masonry interior construction typical of heavy manufacturing occupancy
Lighting	Average cost installation typical of heavy manufacturing occupancies
HVAC	Heating only
Heating Only	Forced air
Cooling Additive	Package units, short ducts
Plumbing	Not included
Notes	(1) High cost foundation, frame, floor and roof structure to support heavy floor load capacity and structural stress. (2) Upper floor model does not include exterior walls or interior finish. The upper floor pricing represents the intermediate floor components only. Total building height is calculated using the first floor model and adjusting for height variations from 30 feet.

MODEL	GCI RESEARCH AND DEVELOPMENT
Floor Height	12'
Finish Type	Finished divided, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood or metal furring
Flooring	25% carpet and pad, 10% ceramic and quarry tile, 5% computer flooring, 60% vinyl tile
Ceiling	Acoustical tile of mineral fiber including a suspension system
Partitions	50% masonry and 50% wood frame interior construction typical of laboratories
Lighting	Average cost installation typical of laboratories
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

Notes	This model is applicable to laboratory type research and development facilities

MODEL	GCI SMALL SHOP
Floor Height	First floor - 14', Upper floors - 12'
Finish Type	Semi-finished, variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted interior walls
Flooring	10% vinyl composition tile, 90% concrete hardener
Ceiling	10% suspended acoustical ceiling of mineral fiber, 90% unfinished
Partitions	Low cost wood frame construction for typical occupancy
Lighting	Low cost installation typical of occupancy
HVAC	Heating only
Heating Only	Unit heaters with fan
Cooling Additive	Package unit
Plumbing	Not included
Notes	Model contains 10% finished office area

MODEL	GCI TRUCK TERMINAL BUNK ROOM
Floor Height	9'
Finish Type	Finished open, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal or wood furring
Flooring	Vinyl tile
Ceiling	Taped and painted drywall
Partitions	8" concrete block, painted on two sides for toilet rooms and stairway enclosures
Lighting	Average cost nonmetallic wiring for the average amount of outlets typical of the occupancy
HVAC	Heating only
Heating Only	Gas fired forced air

Cooling Additive	Package unit, short ducts
Plumbing	Not included

MODEL	**GCI TRUCK TERMINAL WAREHOUSE**
Floor Height	14'
Finish Type	Unfinished
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	10% vinyl tile, 90% floor
Ceiling	Unfinished
Partitions	Average cost wood frame interior construction typical of storage warehousing occupancies
Lighting	Average cost installation typical of transit warehousing occupancies
HVAC	Heating only
Heating Only	Gas fired unit heaters with fans
Cooling Additive	Package unit, short ducts
Plumbing	Not included

MODEL	**GCI LIGHT UTILITY/STORAGE**
Floor Height	Basement - 9'; First floor - 14'; Upper floors - 12'
Finish Type	Unfinished; variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	6" hollow concrete block at a 1% density
Lighting	Average cost, nonmetallic wiring and minimal outlets typical of unfinished areas
HVAC	Heating only
Heating Only	Gas space heaters with fan

Cooling Additive	Evaporative coolers
Plumbing	Not included

MODEL	GCI HEAVY UTILITY/STORAGE
Floor Height	Basement - 9'; First floor - 14'; Upper floors - 12'
Finish Type	Unfinished, variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	6" hollow concrete block at a 1% density
Lighting	Average cost, nonmetallic wiring and minimal outlets typical of unfinished areas
HVAC	Heating only
Heating Only	Gas space heaters with fan
Cooling Additive	Evaporative coolers
Plumbing	Not included
Notes	Above average cost foundation, frame, floor and roof structure to support heavy floor load capacity and structural stress.

MODEL	GCI LIGHT WAREHOUSE
Floor Height	18'
Finish Type	Unfinished; 18' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	Wood frame interior construction typical of storage warehouse occupancies
Lighting	Average cost installation typical of storage warehouse occupancies
HVAC	Heating only

Heating Only	Gas-fired unit heaters
Cooling Additive	Package units, short ducts
Plumbing	Not included

MODEL	**GCI LOFT WAREHOUSE**
Floor Height	First floor - 14'; Upper floor - 12'
Finish Type	Semi-finished at variable floor heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	2 coats of paint
Flooring	Unfinished
Ceiling	Unfinished
Partitions	8" hollow concrete block painted one side with a density of 100 square feet of floor per linear foot of partitioning
Lighting	Low cost installation typical of lofts
HVAC	Heating only
Heating Only	Gas-fired unit heaters with fan
Cooling Additive	Package unit, short ducts
Plumbing	Not included
Notes	This model is applicable to multi-story industrial facilities typical of old style load bearing wall construction

MODEL	**GCI MINI WAREHOUSE**
Floor Height	12'
Finish Type	Unfinished; 12' floor height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	Low cost frame interior construction typical of occupancy
Lighting	Low cost installation typical of occupancy

HVAC	Not included
Heating Only	Not included
Cooling Additive	Not included
Plumbing	Not included
Special Treatment	Heating additive - space heaters @ $ .75 per square foot

General Commercial Residential Models

This section describes the general commercial residential models (GCR).

GCR Basic Shell Components

Site Preparation	Typical grading for a level site applicable to the ground floor area; bulk excavation applicable to basement area.
FOUNDATION	
Type-1 Walls	Concrete block grade walls on concrete spread footings; perimeter insulation.
Type-2 Walls	Concrete grade walls on concrete spread footings; perimeter insulation.
Frame (Type-1)	Interior wood framing and roof supports.
EXTERIOR WALLS	
Type-1 Basement	Concrete block, waterproofing, insulation at finished areas.
Type-2 Basement	Concrete, waterproofing, insulation at finished areas.
Type-1 Upper	Wood, aluminum or vinyl siding, or stucco on sheathing and load bearing wood stud framing, insulation.
Type-2 Upper	Brick veneer on wood sheathing and load bearing wood stud framing, insulation
Ground Floor	Concrete slab with wire mesh reinforcing at grade level, vapor barrier.
Structural Floors	Wood sub-floor on wood joists.
Roof Structure	Gabled type roof at a 4/12 pitch, wood or composition deck on wood joists
Roofing	Composition shingle roofing, insulation
Interior Finish	See occupancy model - specific components
Mechanical Features	See occupancy model - specific components

MODEL	GCR APARTMENT
Floor Height	9"
Finish Type	Finished divided, 8" ceiling heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted drywall on wood furring

Flooring	85% carpet and pad; 15% vinyl composition tile
Ceiling	Taped and painted drywall on ceiling supports
Partitions	Frame interior construction typical of occupancy
Lighting	Low to average cost installation typical of occupancy
HVAC	Forced air heating only
Heating Only	Forced air
Cooling Additive	Add for air conditioning for one unit from Schedule C “Add for A. C.” column. Air conditioning for multiple units is valued using the unit finish adjustment.
Plumbing	Not included, plumbing is valued with the application of the unit finish adjustment
Notes	Kitchen build-ins, plumbing specifications of a 3-fixture bathroom with shower tub, kitchen sink, hot water supply per living unit, and air conditioning, if applicable, are included by the application of the unit finish adjustment

MODEL	**GCR DINING/ LOUNGE**
Floor Height	Basement - 9'; upper floors - 12'
Finish Type	Finished open, 8' ceiling height in basement, 10' in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Painted drywall on wood furring
Flooring	75% carpet and pad; 10% parquet, 15% quarry or ceramic tile
Ceiling	Acoustical tile of organic fiber on furring for basement finish, suspended mineral fiber acoustical tile in upper floors
Partitions	Low cost wood frame interior construction typical of table service restaurants
Lighting	Average cost installation typical of table service restaurants
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCR FUNERAL HOME
Floor Height	12'
Finish Type	Finished divided, 10' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on metal furring
Flooring	90% carpet and pad; 10% vinyl tile
Ceiling	Acoustic tile, mineral fiber, including suspension system
Partitions	Average cost wood frame interior construction typical of mortuaries
Lighting	Average cost installation typical of mortuaries
HVAC	Heat pump system with warm and cool air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCR MOTEL SERVICE
Floor Height	Basement - 9'; upper - 12'
Finish Type	Finished open, 8' ceiling height in basement, 10' in upper floors
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	Basement and first floor - 85% carpet and pad; 10% vinyl tile; 5% quarry or ceramic tile Upper floor – 85% carpet and pad; 15% vinyl tile
Ceiling	Taped and painted gypsum board on metal furring for basement and upper finish, suspended mineral fiber acoustical tile for first floor
Partitions	Low cost wood frame interior construction typical of table service restaurants
Lighting	Average cost installation typical of table service restaurants
HVAC	Zoned air conditioning with warm and cool air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCR MOTEL UNITS
Floor Height	9'
Finish Type	Finished divided, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	85% carpet and pad; 15% vinyl tile
Ceiling	Taped and painted gypsum board on wood furring
Partitions	Taped and painted drywall and sound deadening board on wood studs
Lighting	Average cost installation typical of occupancy
HVAC	Through-the-wall electric heating and cooling units with fan
Heating Only	Electric wall units
Cooling Additive	N/A
Plumbing	Not included, plumbing is valued with the application of the unit finish adjustment

MODEL	GCR NURSING HOME
Floor Height	10'
Finish Type	Finished divided, 8' ceiling heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	50% carpet and pad; 45% vinyl tile; 5% ceramic tile or equal
Ceiling	Painted gypsum board on metal furring
Partitions	Taped and painted drywall on wood studs
Lighting	Average cost installation typical of group care facilities
HVAC	Zoned air conditioning with warm and cooled air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCR UTILITY STORAGE BASEMENT
Floor Height	9'
Finish Type	Unfinished
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Unfinished
Flooring	Unfinished
Ceiling	Unfinished
Partitions	Concrete block at a 1% density
Lighting	Average cost, nonmetallic wiring and incandescent fixtures, minimal illumination typical of unfinished areas
HVAC	Heating only
Heating Only	Space heaters with fan
Cooling Additive	Evaporated coolers
Plumbing	Not included

MODEL	GCR GENERAL OFFICE
Floor Height	Basement - 9'; Upper floor - 10'
Finish Type	Finished divided, 8' ceiling heights
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	95% carpet and pad, 5% ceramic or quarry tile
Ceiling	Acoustical tile of mineral fiber, including suspension system in upper floors
Partitions	Low cost wood framed interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Heat pump system with warm and cooled air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCR MEDICAL OFFICE
Floor Height	10'
Finish Type	Finished divided, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	95% carpet and pad, 5% ceramic or quarry tile
Ceiling	Acoustical tile of mineral fiber, including suspension system in upper floors
Partitions	Wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Heat pump system with warm and cooled air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

MODEL	GCR BANK
Floor Height	10'
Finish Type	Finished divided, 8' ceiling height
INTERIOR FINISH AND MECHANICAL FEATURES	
Walls	Taped and painted drywall on wood furring
Flooring	95% carpet and pad, 5% ceramic or quarry tile
Ceiling	Acoustical tile of organic fiber, including suspension system
Partitions	Average cost wood frame interior construction typical of occupancy
Lighting	Average cost installation typical of occupancy
HVAC	Heat pump system with warm and cooled air
Heating Only	Gas fired forced air
Cooling Additive	N/A
Plumbing	Not included

General Commercial Kit Models

This section describes the general commercial kit models (GCK).

Model: GCK---- General Commercial Kit

FOUNDATION	
Pole frame	Wood poles or posts embedded in the ground
Steel frame	Reinforced concrete column footings under each column in rigid steel frame construction and each post in post and beam construction
FRAME	
Pole frame	Wood treated poles or posts on 8' to 10' centers around the perimeter of the structure with wood rafters, wood girts, and wood purlins
Steel frame	Steel tapered plate columns or post and beam construction with a maximum total roof load weight of 30 pounds. The structure contains light steel beams, steel girts, and steel purlins (See definitions at bottom of model)
EXTERIOR	
Walls	Light steel of 26 to 28 gauge thickness or wood siding on wood or steel girts for a wall height of 12 feet. Add for exterior sheathing, insulation, light aluminum siding, interior liner, heavy gauge siding, plastic panel siding, and sandwich paneling
Openings	1% walk-in doors and 4% overhead doors
Roof	Light steel roofing on wood or steel purlins. Add for insulation, light aluminum roofing, interior liner, heavy gauge roofing, and sandwich paneling
UNFINISHED INTERIOR	
Partitioning	Frame partitions for a height of 12'
Lighting	Low concentration of fixtures, receptacle, switches, and service
Heating	Gas fired units or radiant heaters
AC Add	Evaporative coolers
SEMI-FINISHED INTERIOR	
Flooring	Hardener and sealer
Ceiling	10% acoustical ceilings, tile, or panels, including suspension

	system and 90% painted
Partitioning	Frame partitions for a height of 12'
Lighting	High concentration of fixtures, receptacle, switches, and service
Heating	Gas fired forced air system
AC Add	Evaporative coolers
FINISHED OPEN INTERIOR	
Walls	Taped drywall on metal furring with 2 coats of paint
Flooring	85% of floor area is 90% vinyl tile and 10% carpet and 15% of the floor is unfinished
Ceiling	85% of floor area is acoustical tile constructed of mineral fiber and supported throughout by a suspension system
Partitioning	Frame partitions with a wall height of 12' typically found in finished open interiors
Lighting	Typical fixtures, receptacle, switches, and service found in open interiors
Heating	Gas fired forced air system
AC Add	Air conditioning through force air system
FINISHED DIVIDED INTERIOR	
Walls	Taped drywall on metal furring with 2 coats of paint
Flooring	95% of floor area is carpet and pad, and 5% is unfinished
Ceiling	100% of floor area is acoustical tile constructed of mineral fiber and supported throughout by a suspension system
Partitioning	Frame partitions with a wall height of 12' typically found in finished divided interiors
Lighting	Typical fixtures, receptacle, switches, and service found in finished divided interiors
Heating	Gas fired forced air system
AC Add	Air conditioning through force air system

GCK STEEL FRAME TERMS:

Total roof load: The sum of the roof *snow load* or *live load* (whichever is greater) and the *collateral load.*

Collateral load: The dead load induced by stationary hanging loads such as drop ceilings, sprinklers, mechanical systems, electrical equipment, etc.

Snow load: The load induced by snow collecting on the roof.

Live load: The load induced during maintenance by workers, equipment, or materials.

Understanding the Concept of Construction Quality

Construction quality is a central concept in the approaches used to value commercial and industrial improvements. The quality of the material and workmanship used in constructing an improvement, together with its design elements, will influence its cost new.

Construction quality, and the resultant quality grade assigned, is a composite characteristic. It describes the cumulative effects of workmanship, the costliness of materials, and the individuality of design used in constructing an improvement. Although the construction quality of individual components of an improvement may vary, the overall construction quality tends to be consistent for the entire structure.

Workmanship quality can easily be observed in an inspection of the property. Good quality workmanship is evidenced by plumb vertical surfaces, level horizontal surfaces, properly located and installed mechanical systems, and an overall pride in workmanship.

Material quality is also easily observable during an inspection of the property. Primary indicators of material quality are type and spacing of framing members, type and grade of interior and exterior finishing materials, type and grade of plumbing and electrical fixtures, and type and grade of mechanical systems.

Design is also an indicator of quality of construction. Although most commercial and industrial structures are designed primarily for utility and not for looks, in some occupancies (e.g. office buildings) the importance of appearance and amenities is equal to the importance of pure utility. The fenestration and ornamentation plus the overall layout and design of the building should be considered in determining quality grade.

The costs given in this manual are for improvements that demonstrate a construction quality that is typical of the majority of improvements that will be valued.

Understanding Quality Grades

For each of the types of commercial and industrial improvements, a model has been defined to summarize the elements of construction quality that are typical of the majority of that type improvement. This typical model has been assigned a "C" quality grade. The characteristics of these typical models can be thought of as construction specifications for an improvement that was built with average quality materials and workmanship and has average design characteristics.

A **"B" G~~g~~rade** model and an **"A" G~~g~~rade** model have been defined to summarize the elements of improvements that use higher quality, hence more costly, building materials and workmanship than the typical model. A **"D" G~~g~~rade** model and an

“E” G~~g~~rade model have been defined to summarize the elements of improvements that use lower quality, hence lower cost, building materials and workmanship than the typical model

When considering quality grade, keep in mind that the grades are relative rankings of the cost of the materials, workmanship, and design used in construction. Quality grade does not indicate an improvement is inferior or superior to an improvement assigned a different grade.

This appendix describes the construction elements for each quality grade for each type of commercial and industrial improvement. It also provides pictures and descriptions of actual improvements to illustrate the various quality grades.

Understanding Quality Grade Factors

The replacement cost of an improvement is calculated by taking the base price of the improvement, adjusting it for various construction elements that add or deduct value, and then multiplying this adjusted cost by a percentage based on the improvement’s grade. This percentage, known as a Quality Grade Factor, adjusts the costs in this manual for variations in construction quality.

The quality grade factor for an improvement assigned a **“C” G~~g~~rade** is 100% since these were the quality grades assigned the models used to develop the costs published in this manual. In other words, a “C” quality grade has no affect on the costs taken from this manual. The quality grade factors for the other quality grades reflect an increase in costs above those costs given in the tables of this manual for quality grades higher than the typical and a decrease in costs for quality grades lower than the typical, as shown in ***Table E-1***.

Table E-1. Quality Grade Factors

Quality Grade	Quality Grade Factor
A	160%
B	120%
C	100%
D	80%
E	40%

Assigning Quality Grades

When trying to determine grade, the assessor compares the materials and workmanship used in the subject structure to the construction specifications given in the grade classification tables and the pictures of graded structures. The assessor should emphasize the quality of materials and workmanship used in the construction of the structure when conducting this analysis and place less reliance on the pictures of graded structures. The assessor selects the grade that the subject structure most closely resembles. Most commercial and industrial structures fall between the **“D”** and **“B” G~~g~~rade** classifications, clustering heavily around the **“C” G~~g~~rade** classification.

However, some structures may have construction characteristics that fall into more than one grade classification. To assign a grade to these properties that deviate, the assessor must weigh the components that deviate from the grade selected for the subject property to determine whether an intermediate grade level is appropriate. The assessor should steer away from using intermediate grades if at all possible. Most structures will be designed and constructed using materials and workmanship that are typical for a specific grade without the need to assign intermediate grades. Thus, the assessor must use careful judgment when assigning the grade for a structure.

Example: The assessor has determined that the primary grade for a commercial bank is “C”. However, the bank has marble floors throughout the lobby and public areas that account for 50% of the total floor area. Since the **“C” G~~g~~rade** model allows for floor finishes of 75% carpet and 25% terrazzo, the assessor decides to assign this structure an intermediate grade, higher than the “C” base grade, but lower than “B”.

Assigning Intermediate Quality Grades

Some improvements may have construction characteristics that deviate from the base quality grade specifications. To assign a quality grade to these structures, the assessor must weigh the components that deviate from the base quality grade selected for the subject to determine whether an intermediate quality grade, or an entirely higher or lower full quality grade, is appropriate. The assessor should steer away from using intermediate quality grades if at all possible. Most improvements will be designed and constructed using materials, workmanship, and design that are typical for the base quality grade assigned to the subject without the need to assign intermediate quality grades. Thus, the assessor must use careful judgment when assigning any quality grade that varies from the base quality grade.

The following guidelines apply when assigning an intermediate quality grades:

- **“+ 2”** indicates a quality grade that falls halfway between two full quality grades (AA, A, B, C, D, E). The quality grade factor for this intermediate quality grade is halfway between the percentages for the two full quality grades immediately above and below it.

For example, a quality grade of "C + 2" indicates that the overall construction quality is halfway between "C" and "B". It would have a quality grade factor of 110% meaning the assessor has determined that the construction quality of the improvement has caused its cost new to be 10% higher than those given in the cost schedules in this manual.

- **"+ 1"** indicates a quality grade slightly higher than the full quality grade immediately below it. The quality grade factor for this intermediate quality grade is one quarter of the interval between the percentages for the two full quality grades immediately above and below it.

  For example, a grade of "C + 1" indicates that the overall construction quality is one quarter of the way between "C" and "B". It would have a quality grade factor of 105% (one quarter of the way between 100% and 120%). This means the assessor has determined that the construction quality of the improvement has caused its cost new to be 5% higher than those costs given in the schedules in this manual.

- **"– 1"** indicates a quality grade slightly lower than the full quality grade immediately above it. The quality grade factor for this intermediate quality grade is one quarter of the interval between the percentages for the two full quality grades immediately above and below it.

  For example, a grade of "C - 1" indicates that the overall construction quality is one quarter of the way between "C" and "D". It would have a quality grade factor of 95% (one quarter of the way between 100% and 80%). This means the assessor has determined that the construction quality of the improvement has caused its cost new to be 5% lower than those costs given in the schedules in this manual.

"E –1" is the only intermediate quality grade below "E". It represents a reduction of ten percentage points from the "E" quality grade factor.

Note: Levels below E and above A do not apply to special use commercial properties

Grade Factor Percentages

Table E-2 shows the quality grade factors as percentages for the full and intermediate quality grades.

Table E-2. Quality Grade Factors for Commercial and Industrial Improvements

Grade	Factor	Grade	Factor	Grade	Factor
AAA	360%	**A-1**	150%	**D+2**	90%
AAA-1	330%	**B+2**	140%	**D+1**	85%
AA+2	300%	**B+1**	130%	**D**	80%
AA+1	270%	**B**	120%	**D-1**	70%
AA	240%	**B-1**	115%	**E+2**	60%
AA-1	220%	**C+2**	110%	**E+1**	50%
A+2	200%	**C+1**	105%	**E**	40%
A+1	180%	**C**	100%	**E-1**	30%
A	160%	**C-1**	95%		

Quality Grade Specification Tables

Table E-3 provides a list of the typical construction materials and design elements found in each full construction quality grade. This table is designed to assist the local assessing official in determining the appropriate quality grade to assign to commercial and industrial structures in his/her jurisdiction.

These descriptions **are not** detailed construction specifications of any particular structure. They are intentionally general to emphasize the most prominent elements of all structures within a given quality grade. Because a structure does not have a particular element listed in the table, does not mean it cannot fit into the respective quality grade. Likewise, if a structure has something more than is listed in a particular quality grade, it does not necessarily mean it fits into a higher quality grade.

As stated earlier in this discussion of construction quality; although the construction quality of individual components of an improvement may vary, the overall construction quality tends to be consistent for the entire structure.

Table E-3. Grade Classifications for Commercial and Industrial Structures

	"AAA" Grade	"AA" Grade	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
General	Design, craftsmanship, attention to detail, appointments, finishes, and materials of the highest quality	Architecturally attractive Custom built of the best quality materials and workmanship	Architecturally attractive Custom built of superior materials and workmanship	Architecturally attractive Constructed with good quality materials and workmanship	Moderately attractive Constructed with average quality materials and workmanship	Devoid of any architectural detail Constructed at the lowest possible cost but meets minimum codes	Devoid of any architectural detail Constructed with below standard materials, usually seconds, and poor workmanship
Interior finish	Very finest quality	Best quality	High quality	Good quality	Average quality	Moderate Quality	Unfinished
Built-in features	Substantial number and of the very finest quality; all the modern conveniences are provided	Extensive and of best quality	A few extras of high quality	Only those necessary for the type of occupancy	Only those necessary for the type of occupancy	Minimal	None
Lighting and plumbing	Very finest quality and well designed layouts	Best quality	High quality	Good quality	Standard quality	Moderate quality	Minimal of low quality
Climate control system	Large capacity Well insulated Zoned	Large capacity Well insulated Zoned	Adequate capacity Some insulation Zoned	Adequate capacity Some insulation Zoned	Standard quality	Moderate quality heating	Low quality or none
Design	Architecturally designed by a well known architect; one-of-a-kind structure	Architecturally designed Extensive architectural treatments	Architecturally designed Moderate architectural treatment	Contractor designed Moderate architectural treatment	Owner or contractor designed Minimal architectural treatment	Built from stock plans No architectural treatment	Unskilled, inexperienced, do-it-yourself construction Deficient in finishes

Photographs of Graded Commercial and Industrial Structures

The following photographs illustrate the grade classifications for general commercial and industrial structures. These photographs are provided to help the assessor determine the grade of actual structures.

Important: *These photographs are only an indication of grade and not a determination of the actual grade of the structure shown. The grade determination must be based on individual inspection of the type of materials, design, and quality of workmanship of the subject structure.*

Grade C Country Club

Grade B Country Club

Grade C Row Type Residential ***Schedule A***

Grade C GCR Apt. Building or Res. ***Schedule A*** (depending on design)

Grade C Row-Type: Individual unit ownership- Residential
Schedule A
Single structure ownership- GCR Apt. Building

Grade D Row Type: Individual unit ownership- Residential
Schedule A
Single structure ownership- GCR Apt. Building

Grade A Apartment Building

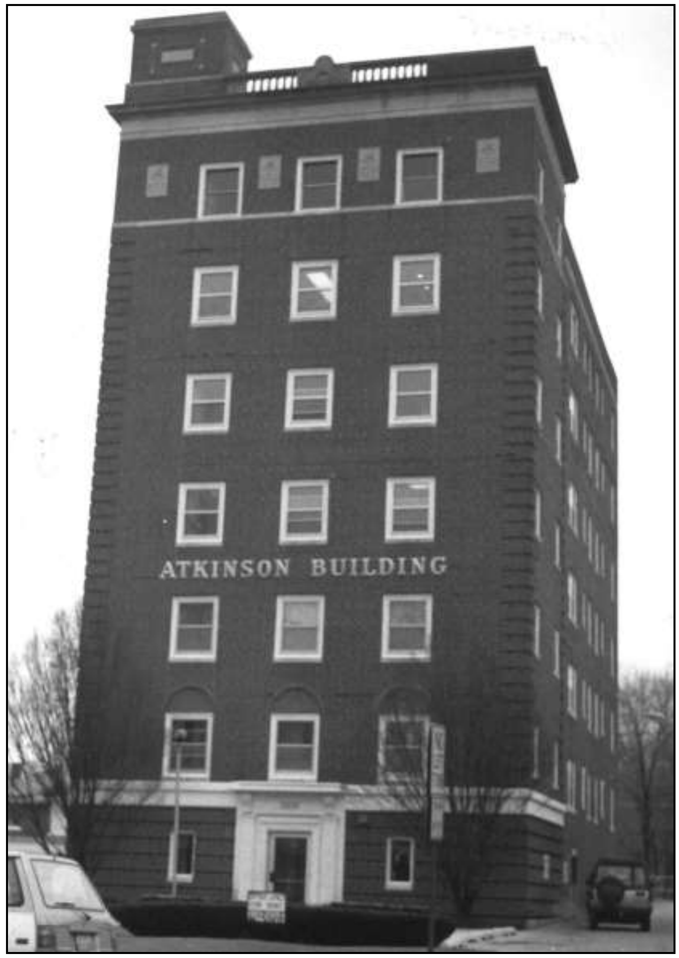
Grade A Apartment Building

Grade C Apartment Building

Grade C Apartment Building

Grade B Apartment Building

Grade C Apartment Building



Grade C Apartment Building

Grade C Apartment Building

Grade C Apartment Building

Grade C Apartment Building

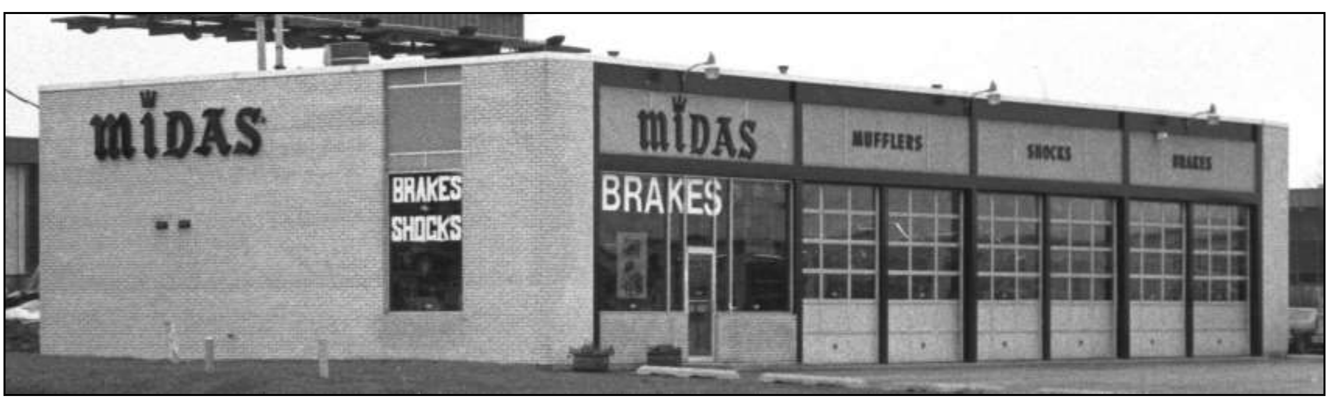
Grade C Apartment Building

Grade B Apartment Building

Grade B Auto Service

Grade B Auto Service

Grade B Auto Service



Grade C Auto Service

Grade C Auto Service

Grade C Auto Service

Grade D Auto Service

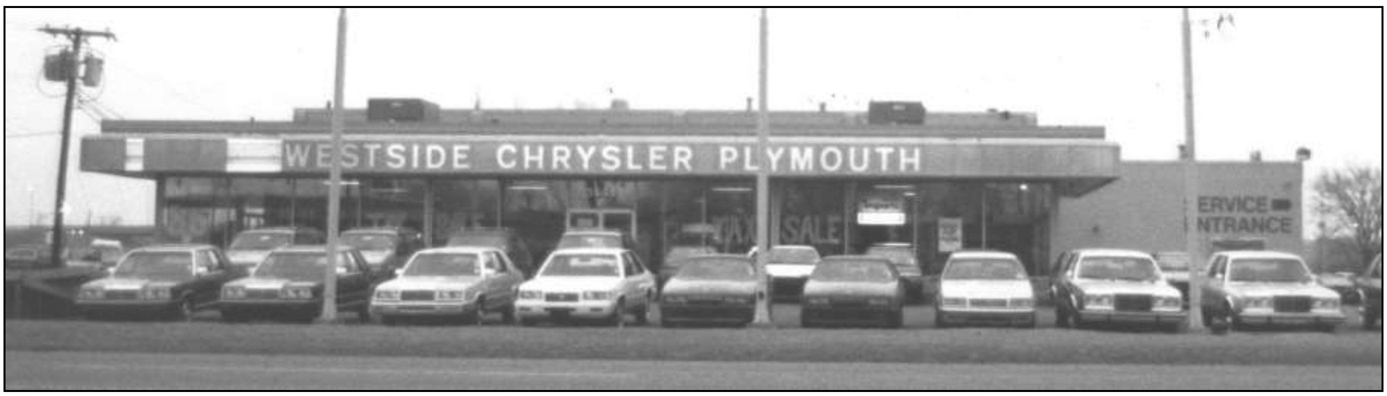

Grade C Pre-Engineered Kit Structure


Grade C Auto Showroom


Grade C Auto Showroom

Grade C Small Car Sales

Grade C Auto Sales Office



Grade C Auto Showroom

Grade C Showroom and Sales

Grade A Bank

Grade B Bank

Grade B Bank

Grade B Bank

Grade B Bank

Grade C Bowling Alley

Grade D Bowling Alley

Grade C Bowling Alley

Grade C Car Wash (Auto)

Grade C Car Wash (Do- it-yourself)

Grade C Car Wash (Auto)

Grade C Convenience Store

Grade C Convenience Store

Grade B Department Store

Grade B Department Store

Grade B Department Store

Grade B Department Store

Grade C Discount Store

Grade C Discount Store

Grade C Discount Store

Grade C Discount Store

Grade C Discount Store

Grade C Discount Store

Grade A Funeral Home, Residential Type

Grade A Funeral Home, Residential Type

Grade A Funeral Home, Designed

Grade B Funeral Home, Residential Type

Grade B Funeral Home, Residential Type

Grade B Funeral Home

Grade B Industrial Office

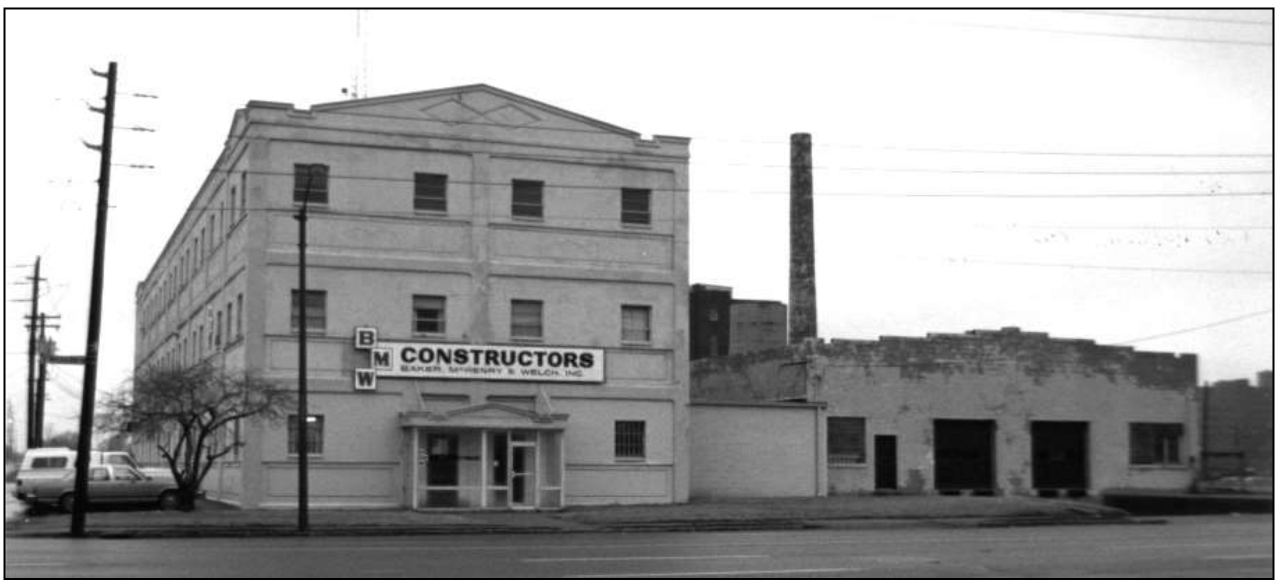
Grade C Loft Warehouse

Grade C Loft Warehouse and Distribution

Grade C Loft Factory

Grade C Loft Industrial Facility

Grade C Loft Industrial Facility



Grade C Loft Industrial Facility

Grade C Light Industrial Facility

Grade C Industrial Office

Grade C Industrial Facility

Grade C Office and Light Warehouse

Grade C Light Warehouse

Grade C Industrial Facility

Grade C Light Industrial Facility

Grade C Light Warehouse

Grade C Office and Light Warehouse

Grade C Pre-Engineered Kit Structure

Grade C Medical Office

Grade C Medical Office

Grade C Medical Office

Grade C Medical Office

Grade C Medical Office

Grade B Motel

Grade B Hotel/Motel

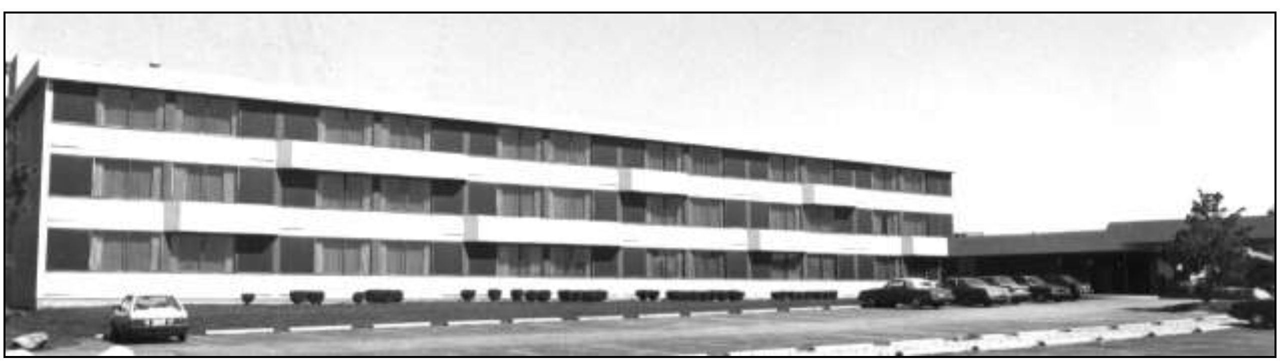
Grade B Hotel/Motel

Grade B Motel

Grade C Motel

Grade C Motel

Grade C Motel



Grade C Motel

Grade C Nursing Home

Grade C Nursing Home

Grade C Nursing Home

Grade C Nursing Home

Grade C Nursing Home


Grade A Office


Grade A Office


Grade A Office


Grade A Office

Grade A Office

Grade A Office

Grade A Office

Grade A Office

Grade A Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

Grade B Office

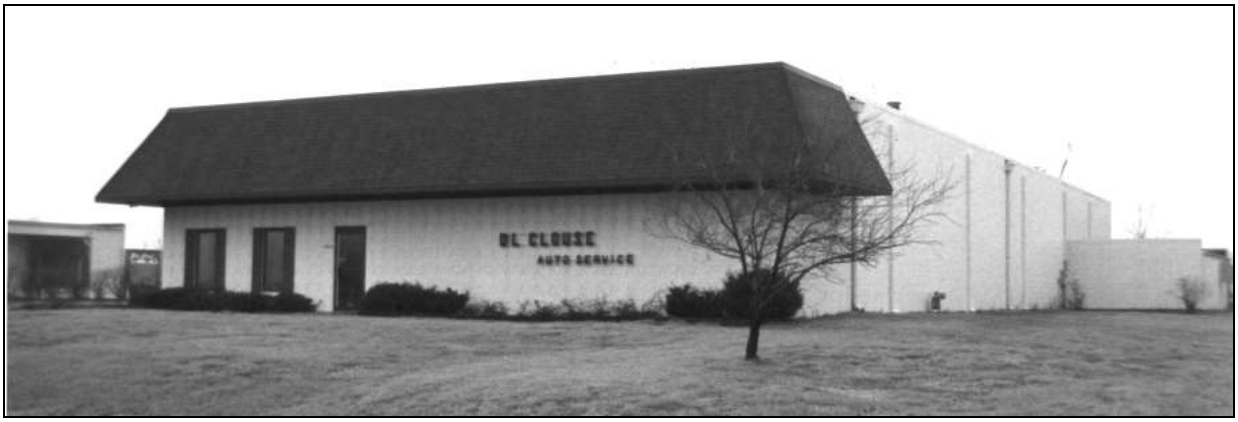
Grade B Office

Grade C Office

Grade C Office

Grade C Office

Grade C Child Care, General Office



Grade C Office

Grade C Parking Garage

Grade C Parking Garage

Grade C Racquet and Handball Court

Grade C Health Club

Grade D Health Club

Grade B Restaurant

Grade B Restaurant

Grade C Restaurant

Grade C Restaurant

Grade B Restaurant

Grade C Restaurant

Grade D Dining/Lounge

Grade D Restaurant

Grade C General Retail

Grade C General Retail

Grade C Downtown Commercial

Grade C Downtown Commercial

Grade C General Retail

Grade C General Retail

Grade C General Retail

Grade C General Retail

Grade C General Retail

Grade C General Retail

Grade C General Retail

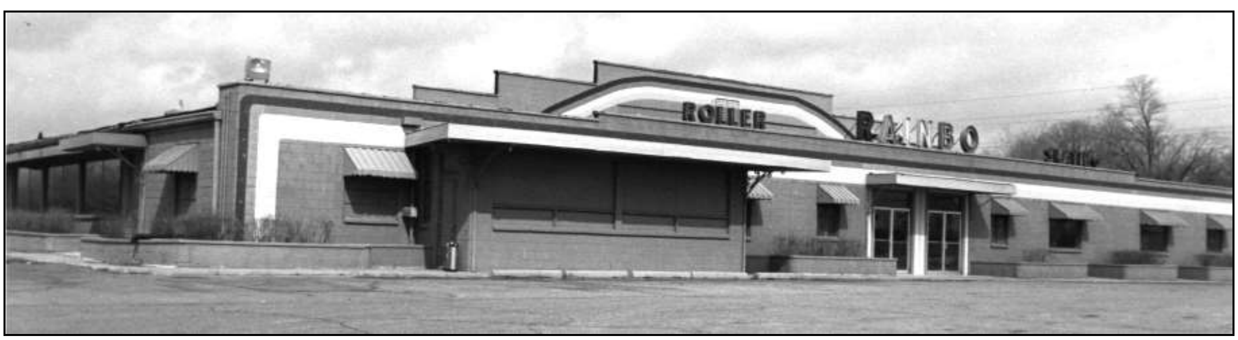
Grade C General Retail

Grade C General Retail

Grade D General Retail

Grade D General Retail

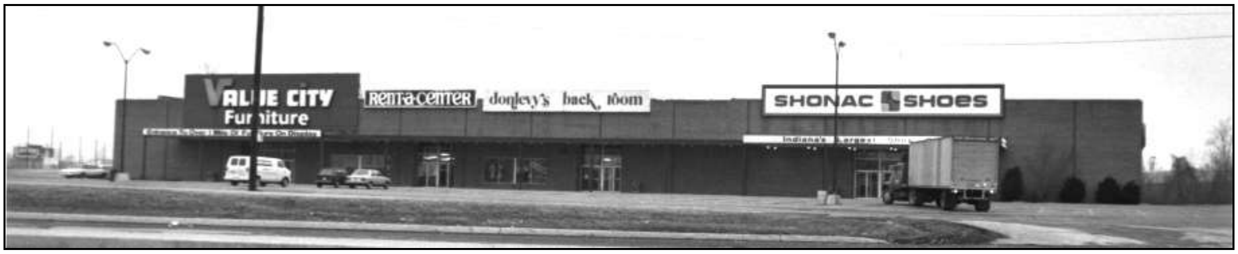
Grade D General Retail



Grade C Roller Rink

Grade B Neighborhood Shopping Center

Grade C Neighborhood Shopping Center



Grade C Neighborhood Shopping Center

Grade C Regional Shopping Center

Grade C Neighborhood Shopping Center

Grade D Neighborhood Shopping Center

Grade C Cashier Booth (Service Station Schedule)

Grade C Supermarket

Grade C Supermarket

Grade C Supermarket

Grade C Supermarket

Grade C Supermarket

Grade A Theater

Grade C Theater

Grade B Theater

Grade B Theater

Grade C Theater

Grade C Truck Terminal

Grade C Truck Terminal

Grade C Truck Terminal

Grade C Truck Terminal

Assigning Grades to Commercial and Industrial Yard Structures

The Cost Schedules for Commercial and Industrial Yard Structures, provided in ***Appendix G***, reflect the specifications for "C" grade structures.

Determining Grade Factor Percentages for Commercial and Industrial Yard Structures

Table E-4 shows the grade factor percentages for the whole and intermediate grades for commercial and industrial yard structures.

Table E-4. Percentage Multipliers for Commercial and Industrial Yard Structures

-1	E	+1	+2	-1	D	+1	+2	-1	C	+1	+2	-1
30	40	50	60	70	80	85	90	95	100	105	110	115
	E				D				C			

B	+1	+2	-1	A	+1	+2	-1	AA	+1	+2	-1	AAA
120	130	140	150	160	180	200	220	240	270	300	330	360
B				A				AA				AAA

Assigning Grades to Special Use Commercial Properties

Table E-5 summarizes the major differences between the grade classifications for fast food restaurants. ***Table E-6*** summarizes the major differences between the grade classifications for gasoline service stations.

Table E-5. Grade Classifications for Fast Food Restaurants

	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
General	Elaborate architectural styling High quality materials and workmanship	Customized architectural styling Good quality materials and workmanship	Moderate architectural styling Good quality materials and workmanship	Simple and conventional styling Average quality materials and workmanship	Simple styling Poor quality materials and workmanship
Roof	A-frame, mansard, or multiple pitch with extensive overhangs Wood shakes, slate, porcelain enamel, shingles heavy grade or specialized asphalt shingles	Gambrel, gabled, mansard, or flat with generous overhangs Asphalt shingles, stone chip, or composition tar and gravel	Flat, shed, or gable with normal overhangs Asphalt shingle, or composition tar and gravel	Flat or shed roof with normal overhangs Composition tar and gravel roofing material	Shed with normal overhangs Composition tar and gravel roofing
Roof decking	Insulated wood or steel decking and framing with laminated wood frame or steel frame supporting beams and columns, composition on pre-stressed concrete barrel shell, or double "T" roof construction	Insulated wood or steel decking and framing or pre-stressed concrete barrel shell roof construction	Insulated wood or steel decking and framing roof construction	Insulated wood decking and framing roof construction	Wood decking and framing
Exterior walls	Decorative stone, wood, ceramic glazed face brick, plate glass, or a combination	Face brick, ceramic tile, plate glass, insulated enameled steel, or a combination	Wood siding, baked acrylic paneling, face brick, plate glass, or painted concrete blocks, or a combination	Wood siding, painted concrete blocks, minimal plate glass, or combination	Wood siding, painted concrete block, minimal plate glass, or a combination
Interior finish*	High quality Exposed stone, exposed brick, high grade porcelain enamel, or wood paneling	Good quality Exposed brick, wood or porcelain enamel paneling, or ceramic tile	Good quality Wood or baked acrylic paneling, plaster, drywall, partial ceramic tile, or a combination	Average quality Wood paneling, drywall, or painted concrete block	Poor quality Painted concrete block
Flooring and Ceiling	Ceramic or quarry tile flooring Acoustical tile, porcelain enamel, plaster, exposed beam and may be a cathedral ceiling	Ceramic or quarry tile flooring Acoustical tile, porcelain enamel, or plaster ceiling	Quarry tile or vinyl asbestos tile flooring Acoustical tile, plaster, or drywall ceiling	Asphalt or vinyl asbestos tile flooring Drywall ceiling	Asphalt tile flooring Drywall ceiling

	"A" GRADE	"B" GRADE	"C" GRADE	"D" GRADE	"E" GRADE
Lighting and plumbing	Lighting fixtures in dining and serving area are ornamental High quality fixtures and finish in restrooms	Lighting fixtures in dining and serving area are ornamental Good quality fixtures and finish in restrooms	Lighting fixtures in dining and serving area are functional, such as recessed fluorescent Good quality fixtures and finish in restrooms	Lighting fixtures in dining and serving area are functional, such as fluorescent lights Fair quality fixtures and finish in restrooms	Lighting fixtures in dining and serving area are functional, such as fluorescent lights Poor quality fixtures and finish in restrooms
Climate control system	Combined heating and air conditioning system	Combined heating and air conditioning system	Combined heating and air conditioning system	Forced air heating system	Forced air heating system
Design	Unique design with emphasis on the roof and exterior walls Construction members may be exposed to contribute to the architectural effect	Conventional and attractive design, possibly false roof facade, and parapets	Conventional design	Devoid of any architectural features	Devoid of any architectural features

Table E-6. Grade Classifications for Gasoline Service Station

	"A" GRADE	"B" GRADE	"C" GRADE	"D" GRADE
General	High quality materials and workmanship	Good quality materials and workmanship	Average quality materials and workmanship	Fair quality materials and workmanship
Roof	Double pitch, flat type, or hip style Asphalt shingles or composition tar and gravel	Double pitch or flat Asphalt shingles or composition tar and gravel	Flat type Composition tar and gravel	Flat or shed Roll roofing material
Roof decking	Insulated wood or steel decking and framing	Insulated wood or steel decking and framing	Insulated wood or steel decking and framing	Insulated wood decking and framing
Exterior walls	Face brick or enamel brick on masonry back-up, or insulated sandwich type porcelain enameled steel	Part face brick, porcelain enamel facing, or insulated sandwich type porcelain enameled steel	Part acrylic paneling, common brick, or good quality concrete block	Concrete block
Interior finish*	Good quality in office and sales areas Ceramic tile on the walls of restrooms	Good quality in office and sales areas Ceramic tile on the walls of restrooms	Limited to a finished ceiling in office and sales area Ceramic tile on walls of restrooms	Unfinished

	"A" GRADE	"B" GRADE	"C" GRADE	"D" GRADE
Flooring and Ceiling	Ceramic, quarry, or other high quality tile flooring Good quality ceiling in office and sales areas Finished ceiling in service bays	Asphalt tile flooring Good quality ceiling in office and sales areas Unfinished ceiling in service bays Ceramic tile on walls and floor of restrooms	Asphalt tile flooring Finished ceiling in office and sales area Unfinished ceiling in service bays Ceramic tile on floor of restrooms	Unfinished

Determining Grade Factor Percentages for Special Use Properties

Table E-7 shows the grade factor percentages for the whole and intermediate grades for special use properties.

Note: Levels below E and above A do not apply to special use commercial properties

Table E-7. Percentage Multipliers for Commercial and Industrial Special Use Properties

E	+1	+2	-1	D	+1	+2	-1	C	+1	+2	-1
40	50	60	70	80	85	90	95	100	105	110	115
E				D				C			

B	+1	+2	-1	A
120	130	140	150	160
B				A

Photographs of Graded Special Use Properties

The following photographs illustrate the grade classifications for special use properties. These photographs are provided to help the assessor determine the grade of actual structures.

Important: *These photographs are only an indication of grade and not a determination of the actual grade of the structure shown. The grade determination must be based on individual inspection of the type of materials and quality of workmanship of the subject parcel.*

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade B Fast Food

Grade C Fast Food

Grade C Fast Food

Grade C Fast Food

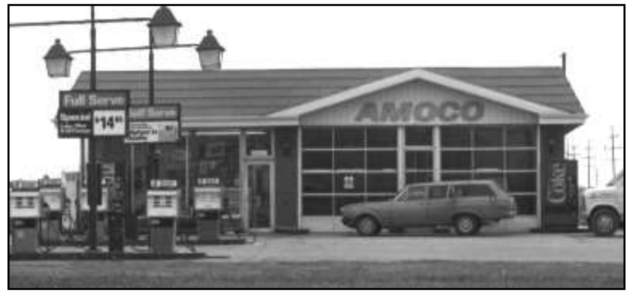
Grade C Fast Food

Grade C Fast Food

Grade C Fast Food

Grade C Fast Food

Grade A Service Station



Grade A Service Station

Grade A Service Station


Grade B Service Station, Good Grade Canopy

Grade A Service Station, Average Grade Canopy

Grade B Service Station


Grade B Service Station

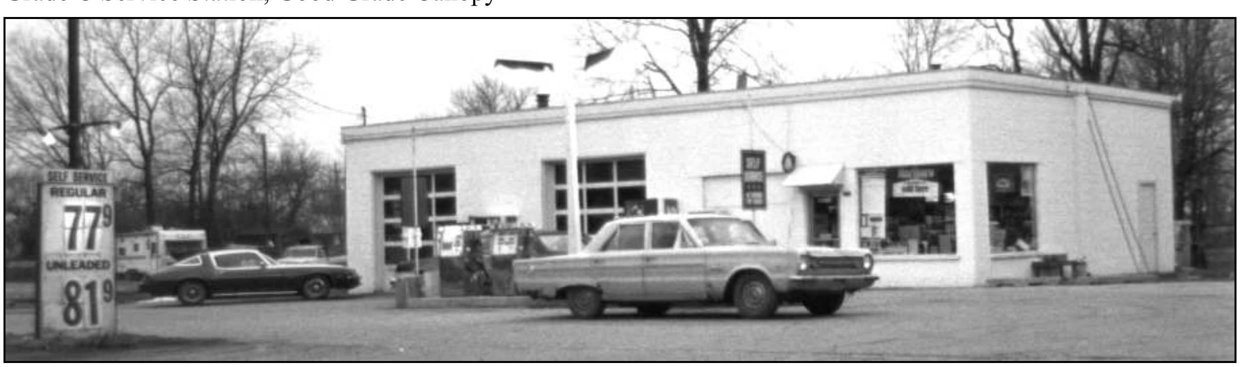
Grade B Service Station

Grade B Service Station


Grade B Service Station


Grade C Cashier Booth/Canopy

Grade C Service Station, Good Grade Canopy



Grade C Service Station

Grade C Public Restroom Building

Grade C Service Station

Grade C Service Station

Grade D Service Station

Contents

Tables

This appendix describes the concepts of accrued depreciation as applied in assessing:

- Commercial structures
- Industrial structures
- Commercial and Industrial yard structures

This appendix discusses how depreciation is used in the valuation process. It describes how the condition, age, desirability, and utility of a structure affect the determination of accrued depreciation. It provides step-by-step instructions for determining the normal depreciation percentage applicable to individual structures.

This appendix also provides instructions for calculating abnormal obsolescence.

Understanding the Concept of Depreciation as it Applies to Commercial and Industrial Property

Accrued depreciation is a loss in value to the cost new of the improvements from any and all causes. In estimating the replacement cost new of the improvements, you have determined the upper limit of value that the improvements will have on the valuation date. The accrued depreciation, therefore, is merely the difference between this upper limit of value (replacement cost new) and the true tax value of the improvement.

There are three major categories, or causes, of depreciation:

- **Physical Deterioration** is a loss in value caused by the building materials wearing out over time. It may be caused by wear and tear, use or abuse, action of the elements, and/or insect infestation.
- **Functional Obsolescence** is a loss in value caused by inutility within the improvement. It may be caused by defects in design, style, size, poor room layout, a deficiency, the need for modernization, a superadequacy, and/or by changes in the tastes of potential buyers.
- **External Obsolescence** is caused by an influence outside the property's boundaries that has a negative influence on its value. Noise, air, water, or light pollution; heavy traffic; inharmonious land uses; and/or crime are examples of external obsolescence.

Note: When applying any form of obsolescence the assessor should reevaluate the obsolescence on an annual basis.

In using the cost tables in this manual, you have produced a generalized cost estimation that is referred to as the *replacement cost new* of the structure. Replacement cost new is defined as the cost of constructing a building having the same utility as the subject structure but using modern construction materials, workmanship, and design. In so doing, you have effectively "cured" some forms of functional obsolescence that exist in the structure.

The depreciation on commercial and industrial structures is estimated as a lump sum percentage that accounts for the loss in value primarily from physical deterioration. In this manual, this depreciation percentage will be referred to as **normal depreciation.** Any additional loss in value from obsolescence beyond normal depreciation will be referred to as **abnormal obsolescence** and will be estimated separately from the normal depreciation.

Normal depreciation is estimated through the assignment of **typical life expectancies** and individual **structure condition classifications**.

The above examples of the various forms of obsolescence are given to provide typical types found in commercial and industrial properties. However, the obsolescence examples may or may not apply in specific markets depending upon buyer preferences. In other words, what is obsolete in one market may not be considered obsolete in another market where there are different influences affecting value.

Determining the Actual Age of a Structure

The actual age of a structure should be determined from the records of the owner. If this is not available, public records such as building permits or older property record cards may be used.

Structures which have had additions built subsequent to the construction of the principal or original structure must have a "weighted" age calculated to use in place of the actual age when using the commercial and industrial depreciation tables. The method of calculating weighted age is one of weighting the actual age of the original structure and each of its additions by the square footage contained in each part of the structure.

Note: Depreciation is based on the number of years that have lapsed from the date of construction and the effective date of valuation. Therefore, in this manual the age of a structure is the difference between its date of construction and ~~March 1, 2011~~January 1, 2019.

Example: An industrial plant was originally built in 1959 and has had two additions; one in 1979 and the second in 1994. The original structure contained twenty thousand (20,000) square feet, addition one contained five thousand (5,000) square feet and addition two contained ten thousand (10,000) square feet. The calculation of the weighted age would be as follows:

Part of Structure	Size		Total S.F.		%		Year		Contribution
Original P~~p~~lant	20,000	÷	35,000	=	57.14	~~X~~ x	1959	=	1,119.43
1st A~~a~~ddition	5,000	÷	35,000	=	14.29	~~X~~ x	1979	=	282.71
2nd A~~a~~ddition	10,000	÷	35,000	=	28.57	~~X~~ x	1994	=	569.71
Totals	**35,000**				**100.00**				**1,971.85**

1,971.85 rounds to the year 1972. Therefore, the structure has a weighted age of ~~thirty nine~~forty-seven (~~39~~47) years and the assessor would enter 1972 on the property record card in the age column under summary of improvements.

Understanding the Commercial and Industrial Structure Condition Classifications

The assessing official first determines the **structure condition classification** for the structure taking into account its physical condition, any inutilities, and location. The majority of structures will have an average structure condition classification. An average structure condition classification for a structure means it is in the average condition and has the average utility characteristics of the majority of the structures with the same age. Therefore, the structure given an average structure condition classification has experienced representative or typical maintenance and offers the same utility as the majority of structures within its age group.

Structures demonstrating higher maintenance, suffering from less inutility, and having superior locations than the majority of structures in the age group should be given condition classifications of good or excellent. Examples of these types of structures would include a structure having energy efficient replacement windows or a commercial structure that has had the façade modernized.

Structures demonstrating lower maintenance and suffering from more inutility should be given structure condition classifications of fair, poor, and very poor. Examples of these types of structures would include a structure that has a severely deteriorated roof or an industrial structure that is located away from any major form of transportation.

"***Table 1. Structure Condition Classifications***"~~,~~ at the end of this appendix, describes the classifications that are to be assigned.

Determining the Normal Depreciation Percentage

This section provides the instructions for using the commercial and industrial depreciation tables to calculate the normal deprecation percentage for a structure.

STEP 1 Determine the actual age (weighted age) of the structure using the procedure discussed in the section "***Determining the Actual Age of a Structure***" earlier in this appendix.

STEP 2 Assign a structure condition classification to the structure by comparing it to structures of similar age. Structure condition classifications are summarized in ***Table F-1. Structure Condition Classifications*** later in this appendix.

STEP 3 Determine the effective age of the structure by correlating the actual age (weighted age) with the structure condition classification in ***Table F-2. Actual Age to Effective Age Conversion Table*** located later in this appendix.

STEP 4 Determine the typical life expectancy in years of the structure by referring to ***Table F-3. Typical Structure Lives*** located later in this appendix.

STEP 5 Go to ***Table F-4. Depreciation – Commercial/Industrial Structures*** located later in this appendix and find the total life expectancy in year's column that you determined for the structure in Step 4 above.

STEP 6 In the effective age column of the table, locate the row corresponding to the structure's effective age as determined in Step 3 above.

STEP 7 Find the intersection of the selected row (effective age) and the selected column (typical life expectancy). This number is the percentage of normal depreciation from all causes suffered by the structure.

Example: A fifteen (15) year old supper club restaurant with a C grade, type 2 framing, has been assigned a structure condition classification of average based upon its physical condition and utility. Its effective age is determined to be fourteen (14) years by correlating its actual age with its structure condition rating in ***Table F-2. Effective Age to Actual Age Conversion Table***. The typical life expectancy for a restaurant with a C grade, type 2 framing is thirty-five (35) years as shown in ***Table F-3a. Typical Structure Lives***. Referring to ***Table F-4. Depreciation – Commercial/Industrial Structures***, we correlate the row for an effective age of fourteen (14) years with the typical life expectancy column for thirty-five (35) years and find the normal depreciation.

Determining Abnormal Functional Obsolescence

The normal depreciation that has been estimated as outlined in the first part of this appendix accounts primarily for typical physical deterioration. Any abnormal or excessive functional and external obsolescence beyond physical deterioration that affect the structure must be considered separately since they have not been accounted for in the normal depreciation table.

Abnormal obsolescence is calculated using different methodologies depending upon the type of inutility it represents. There are numerous methodologies and as a general rule, common appraisal concepts and methods may be used to determine obsolescence under true tax value. *See Canal Square v. State Board of Tax Commissioners*, 694 N.E.2d 801 (Ind. T.C. 1998). A discussion of some of the most common methods to calculate functional obsolescence is included below. This is not intended to be an exhaustive list, however, any method used by an assessing official or by a taxpayer on appeal must establish certain factors of reliability to be used as a basis for determining obsolescence.

~~The Department of Local Government Finance will~~The county should consider a number of ~~additional~~ factors to determine the relevancy of evidence regarding obsolescence. The first factor is whether the alleged maladies of the property actually lead to a loss of value. Evidence of such loss of value may be based on the assessing official's observations of the property, statistical evidence establishing a correlation between the faults of the property and its value, or from anecdotal evidence if sufficiently reliable. In many cases there will be causes of obsolescence that cannot be easily seen by the assessing official. In these cases, it is necessary to establish a link between the evidence and the loss in value. For statistical evidence this may be established by providing sufficient evidence of correlation of the evidence to value. For anecdotal evidence establishing reliability is more difficult. Uncorroborated assertions by the taxpayer in a tax appeal regarding the value of its property may be unreliable unless they can be confirmed either by other evidence or by the opinions of impartial observers. For example, a statement by a taxpayer that its property is worthless is not reliable if the same taxpayer has produced sales literature extolling the virtues of the property and discussing its great value.

Most Common Methods for Calculating Functional Obsolescence

Functional obsolescence is calculated using different methodologies depending upon the type of inutility it represents. Listed below are the most common forms of functional obsolescence and the appropriate methodologies used to convert them into a dollar loss in value.

- A **deficiency requiring an addition** is something lacking in the improvement that potential owners of the property desire. An example of this would be an office building without central air conditioning located in a neighborhood where all comparable, competing office buildings have central air conditioning. The depreciation caused by this type of functional obsolescence is calculated by determining the cost of adding (retrofitting) the item less the cost to install the item in new construction. Using the example in this paragraph; a contractor estimates it would cost $40,000 to add central air conditioning to the office building at the present time and the manual shows the cost new of this air conditioning system is $30,000. The amount of functional obsolescence would be calculated as follows:

Cost to A~~a~~dd (retrofit) A~~a~~ir C~~c~~onditioning	$40,000
Less C~~c~~ost~~ new~~ of New A~~a~~ir C~~c~~onditioning from M~~m~~anual	- 30,000
Functional Obsolescence	$10,000

- The **need for modernization** means the improvement has the item desired by the potential owners but it is outdated or inefficient. An example of this would be a ventilating system in an industrial plant that does not effectively remove heat and odors from the manufacturing area. The depreciation caused by this type of functional obsolescence is calculated by taking the cost new of the item, less the physical depreciation already charged, less the salvage value of the existing item (if any), plus the cost to remove the existing item and the added cost to install the new, modern item. Using the example in this paragraph; the cost new of the current ventilating system was $20,000, it was physically depreciated 50%, had a salvage value as scrap metal of $500, and the cost to remove the existing system and install the new system was $30,000. The amount of functional obsolescence would be calculated as follows:

Cost (new) of E~~e~~xisting S~~s~~ystem	$20,000
Less P~~p~~hysical D~~d~~epreciation (A~~a~~lready C~~c~~harged @ 50%)	- 10,000
Less S~~s~~alvage V~~v~~alue	- 500
Plus C~~c~~ost of R~~r~~emoving O~~o~~ld and I~~i~~nstalling N~~n~~ew S~~s~~ystem	+ 30,000
Functional Obsolescence	$39,500

- A superadequacy in a structure is an item that is bigger, better or larger than potential owners demand. For example, assume you have an apartment building that is heated by a central, gas-fired boiler that produces steam. The boiler has a capacity that is twice as big as necessary to heat the building; therefore, it is superadequate. The depreciation caused by this type of functional obsolescence is calculated by taking the cost new of the item, less the physical deterioration already charged, plus the cost of removal of the item and the installation cost of a new adequate item, less the salvage value (if any) of the superadequate item.

  Using the example in this paragraph; the cost new of the existing boiler is

$8,000, it was physically depreciated 80% and had a salvage value of $200 as scrap metal. The cost to remove the existing boiler and install a new, adequate boiler is $12,000. The amount of functional obsolescence would be calculated as follows:

Cost (new) of E~~e~~xisting B~~b~~oiler	$8,000
Less P~~p~~hysical D~~d~~epreciation (A~~a~~lready C~~c~~harged @ 80%)	- 6,400
Less S~~s~~alvage V~~v~~alue	- 200
Plus C~~c~~ost of R~~r~~emoving O~~o~~ld and I~~i~~nstalling N~~n~~ew B~~b~~oiler	+ 12,000
Functional Obsolescence	$13,400

- **Excess operating costs** are often incurred by a property that suffers functional obsolescence. This means the inutility within or between structures causes the owner to have to pay more to operate the property than he/she would if the inutility did not exist. An example of this would be an industrial property that has had a warehouse addition made to the main plant. Because of the site size and/or zoning restrictions, the warehouse addition was constructed in a manner that makes the movement of materials between the main plant and the warehouse less than efficient, thereby causing inutility. In order to overcome this inutility, the owner of the plant has had to purchase a forklift and hire an operator that would not have been needed had the warehouse been an integral part of the main plant. The depreciation is calculated as follows:

  a. Sum the annual cost of the operator's wages plus overheads (payroll taxes, insurance, and other benefits) and the annual operating expenses on the forklift (fuel, maintenance, and depreciation).

  b. Determine the number of years of remaining economic life for the main plant. This is the number of years from the date of valuation until you expect the plant to have a zero value. It is calculated by subtracting the effective age of the plant from its total life expectancy; both estimated under the normal depreciation procedure.

  c. Discount the total annual excess operating costs over the remaining economic life of the main plant at an appropriate discount rate to get the amount of functional obsolescence. A discussion of "discounting" can be found in any appraisal text that discusses the income approach to value.

Example:

Forklift O~~o~~perator's A~~a~~nnual W~~w~~ages	$20,000
Operator's O~~o~~verheads (35% of W~~w~~ages)	7,000
Maintenance on F~~f~~orklift	1,000
Fuel for F~~f~~orklift	3,000

Depreciation on F~~f~~orklift	2,000
Total A~~a~~nnual E~~e~~xcess O~~o~~perating C~~e~~osts	$33,000
Times Present Worth of 1 per Period F~~f~~actor for 20 Y~~y~~ears (remaining economic life of plant) at a 12% D~~d~~iscount R~~r~~ate	**x** 7.46944
Functional O~~o~~bsolescence	**$246,492**

Other recognized appraisal methods for determining obsolescence may also be used if based on reliable and relevant data.

Calculating Total Depreciation for Income Producing Properties

The market most often uses a capitalized income approach to value income producing properties. This approach converts an estimate of the income the property receives from rent into value through a mathematical process known as capitalization. It more accurately reflects the actions of buyers and sellers of such properties than does the cost approach to value used in the manual.

The simplest method of capitalization is done through the use of Gross Income Multipliers (GIM). The use of this capitalization method requires certain assumptions. The first is the property will remain rented at a constant rate with no unusual vacancies. The second is that the subject and the comparable properties used in the analysis are truly comparable in that they are subject to the same market influences. The third is that any differences between the subject and the comparables are reflected in the rents each receives.

Dividing a property's sale price by its annual income (rent) derives a gross income multiplier (GIM). The resultant GIM is a number that tells you how many times gross annual rent a purchaser paid for the property being analyzed. Completing this calculation for all sold comparable properties within an area will yield a range of GIM's from which can be chosen the typical GIM for the area.

The mechanics of the GIM method are:

1) Derive GIM's from comparable sales by dividing the sale price by the gross annual income/rent that each was receiving at the time of sale.

2) Calculate the total value of the subject property by multiplying its annual gross rent by the appropriate GIM.

Compare this total value from the capitalization process to the subject property's RCN plus land value. If the capitalized value is equal to or greater than the RCN plus land value, no depreciation exists on the subject property. If the RCN plus land value is greater than the capitalized value, the difference between the two values is the indicated total depreciation for the subject property.

Other more sophisticated versions of the capitalized income approach may be used to determine total depreciation if based on reliable and relevant data.,

Determining Abnormal External Obsolescence

External obsolescence can either be temporary or permanent. Temporary external obsolescence is caused by factors in the market such as an oversupply of the type of space it provides. This is sometimes found in income producing (rental) properties such as apartments, hotels/motels, office buildings, and retail commercial space such as shopping centers and downtown mercantile buildings. Permanent external obsolescence ~~is~~ may be caused by the subject property's location to an encroaching land use. Examples of this would be location in proximity to an environmental hazard, inharmonious land uses surrounding the property, and the absence of zoning and land use controls.

Market data must be used in estimating external obsolescence. Because external obsolescence affects the total property--improvement and land--the obsolescence attributable to the improvement must be isolated. Its effect on land value is reflected in the land value assigned to the subject property. Its effect on building value is the only concern discussed in this appendix because it is the depreciation of the structure that we are concerned with at this point in the true tax value determination. A properly determined land value ratio developed for the neighborhood in the land value process is used to determine the amount of external obsolescence to be allocated to the building.

> **Example:** You have estimated $20,000 as the total external obsolescence for a commercial property. The land value ratio established for commercial property in this neighborhood is 1:3 meaning that one (1) part of the total value is in the land and three (3) parts are in the improvements. To determine the amount of external obsolescence on the improvements, you must allocate out of the total obsolescence three (3) parts, which is equal to seventy-five percent (75%). Therefore, 3 parts or 75% of $20,000 total obsolescence equals $15,000 of external obsolescence on the commercial building.

Calculating Abnormal External Obsolescence

There are two methods of measuring external obsolescence, both requiring the use of market data: comparing comparable sales of similar properties and capitalization of rent loss. See IAAO, Property Assessment and Valuation, Second Ed. (1997), pg. 175.

Sales Comparison Method

In this method of estimating external obsolescence, the assessing official locates two properties that have sold which are comparable to the subject and each other. One of the comparable properties suffers from the same external obsolescence as the subject; the second does not suffer the external obsolescence. The comparable sale prices are adjusted for time to reflect the same date of sale as the reassessment date and the difference in the adjusted selling prices is the indicated total market external obsolescence suffered by the one comparable property. You must next convert this market external obsolescence into an indicated true tax value external obsolescence by dividing the market external obsolescence (the difference in the adjusted selling prices of the two comparables) by the selling price of the comparable suffering the external obsolescence. The result is the percent of total external obsolescence.

To determine the percentage external obsolescence to be applied to the remainder value of the subject improvements, the land value ratio is applied to the total external obsolescence percentage as explained earlier in this appendix.

Example #1: The subject commercial property is located next to a landfill. This reduces the number of customers it draws in comparison to similar properties located several blocks away from the landfill. You have located two sales of comparable properties. The first sale suffers the same location problem as the subject and sold two (2) years prior to the assessment date for $80,000. The second sale does not suffer the same location problem as the subject and the first sale and sold one year prior to the assessment date for $94,000. The land value ratio for these properties in this neighborhood is 1:3 and sale prices have increased 5% per year in this neighborhood.

The external obsolescence percentage to be applied to the subject improvements is calculated as follows:

Sale Price of comparable w/o obsolescence, adjusted to assessment date	$94,000	+ 5%	=	$98,700
Sale Price of comparable with obsolescence adjusted to assessment date	$80,000	+ 10%	=	$88,000
Difference in adjusted selling prices (Indicated total market external obsolescence)				$10,700
Divided by sale price of comparable with external obsolescence			÷	$88,000
Equals percentage market external obsolescence			=	12.2%
Allocated to building using the L:B ratio of 1:3	12.2% x 75%		=	9.2%
Rounded to				9.0%

Therefore, 9.0% is the amount of external obsolescence that the subject property's improvements should receive and is applied to the remainder value of those improvements.

Example #2: Assume that a residence in an area zoned exclusively for residential purposes is located adjacent to an interstate highway, but without any access to the interstate. Analysis of sales of comparable properties that are not adjacent to the interstate indicate a loss of market value of $8,000 for this condition. Land value for the subject is $3,000 less than for comparable sales that are not adjacent to the busy street. External obsolescence may be estimated as follows:

Market V~~v~~alue L~~l~~oss:	$8,000
Land Value Difference:	($3,000)
Loss Attributable to I~~i~~mprovement:	$5,000

Capitalization of Income Method

This method of estimating external obsolescence uses the income approach to value techniques whereby the rent loss caused by the external obsolescence is capitalized into an estimate of the loss in total property value. The assessing official estimates how much net rent is being lost by the subject property due to the external influence (external obsolescence). This net rent loss is then capitalized by an overall capitalization rate using the capitalization formula to arrive at the dollar amount of total external obsolescence for the property.

To determine the dollar amount of external obsolescence to be applied to the remainder value of the subject improvements, the land value ratio is applied to the total external obsolescence as explained earlier in this appendix. This dollar amount of external obsolescence is then converted to a percentage by dividing it by the remainder value of the subject improvements.

Example: An office building containing 40,000 square feet of leaseable area suffers a vacancy rate of 20% due to an oversupply of office space in the market. The normal vacancy rate for this type of property in a more active market is 5%, therefore 15% (actual vacancy of 20% minus normal vacancy of 5%) of the space cannot be utilized in the current market. The net rent of the subject property is $5.00 per square foot annually. The land value ratio for office buildings in the area is 1:5 and the capitalization rate is 12%. You have already calculated the remainder value at $1,700,000.

The external obsolescence percentage to be applied to the subject improvements is calculated as follows:

Calculation of U~~u~~nused S~~s~~pace	= 40,000 SF **x** 15%	=	6,000 sq. ft.
6,000 sq. ft. **x** $5.00/ sq. ft.		=	Annual rent loss or $30,000
Capitalized (divided by) C~~c~~ap R~~r~~ate of 12%		÷	12%
Equals Total External Obsolescence		=	$250,000
Allocated to B~~b~~uilding (using the L:B ratio of 1:5)	$250,000 **x** 83.33%	=	$208,333
Converted to a P~~p~~ercentage (by dividing the building external obsolescence by the remainder value)	$208,333 ~~÷~~ ÷ $1,700,000	=	12.26%
Rounded to:			12.00%

Therefore, 12.0% is the amount of external obsolescence that the subject property's improvements should receive and is applied to the remainder value of those improvements.

Obsolescence for Special-Purpose Properties

This section provides recommendations for estimating obsolescence of special-purpose properties. A special-purpose property is a type of limited-market property. A limited-market property is defined as:

A property that has relatively few potential buyers at a particular time.[1]

Large manufacturing plants, railroad sidings, and research and development properties are examples of limited-market properties that typically appeal to relatively few potential purchasers. Many limited-market properties include structures with unique designs, special construction materials, or layouts that restrict their utility to the use for which they were originally built.

Special-purpose property is defined as:

A limited-market property with unique physical design, special construction materials, or a layout that restricts its utility to the use for which it was built; also called special-design property.[2]

Special-purpose properties usually have limited conversion potential.

The steps in this analysis include:

1. Estimating the replacement cost new of the improvements
2. Breaking down the obsolescence into its component parts
3. Estimating the land value
4. Subtracting Step 2 from Step 1 to get the improvement value
5. Adding Step 4 to Step 3 to the total property value

Estimating Replacement Cost New

The primary source for estimating the replacement cost new will be the commercial and industrial cost tables. Special-purpose properties may have higher cost per square foot estimates than other industrial properties due to several factors. For instance, special-purpose properties may require more time to construct, which will add additional inflationary costs, interest costs, and holding period costs. Also, special-purpose properties may require unusual or made-to-order materials that are more expensive than normal construction materials. To the extent that special-purpose properties require more investment during construction before realizing a return to the owner, there is more risk involved as well.

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[1] Appraisal Institute, *The Appraisal of Real Estate*, 12th Ed. (2001), pg. 25
[2] Appraisal Institute, *The Appraisal of Real Estate*, 12th Ed. (2001), pg. 25-26.

There shall be a presumption that the replacement cost determined by the prescribed schedules is the actual replacement cost of the subject structure for purposes of determining true tax value. However, either the assessing officials or a taxpayer shall be permitted to consider and use other relevant and reliable information to rebut such presumption and establish the actual replacement cost.

Adjustments to Replacement Cost

Any portion of the facility not in use, or not in the process of being adapted for use, as of the assessment date requires adjustment. The assessor should subtract the cost of such improvements from the replacement cost prior to adjusting for physical, functional, and external obsolescence. The physical, functional, and external obsolescence adjustments should reflect that such costs have already been subtracted out.

Estimating Physical Depreciation

The assessing official should be concerned about estimating items of physical depreciation that jeopardize the foreseeable (5 years or less) usefulness of the facility (based on the portion remaining after subtracting the cost of unused areas). These should be itemized and the cost to repair or replace the item of physical depreciation should be estimated. Many companies maintain budgeted maintenance or capital improvement schedules that will serve as additional supporting documentation for the determination of physical depreciation and its cost.

Estimating Functional Obsolescence

Newly constructed facilities or specialized uses where the production function (or type of equipment) has not substantially changed since the original construction should not exhibit functional obsolescence. This assumes that the facility was originally designed to be efficient and that functional inefficiencies would not have been created purposefully. Substantial changes in technology, accepted production methods, and product specifications may result in property experiencing obsolescence even given its current use. If the use of the facility has changed over time, the assessor may find forms of functional obsolescence. In this case, the assessor should also reevaluate whether or not the real property is a special-purpose property to be evaluated under this methodology since it may have demonstrated a broader set of willing buyers and sellers during the sale process. Functional obsolescence usually is tied to specific events (e.g. a change in use, a change in production process, etc.) that can be objectively determined and will not occur simply because of age.

One difficulty that will arise in this approach is for facilities that contain production equipment requiring unusual physical layouts. For example, technologies that process items in rolls or “lengths” (e.g. paper and steel) usually have a production process that is in a straight, long line and may not allow for more efficiently shaped buildings. As long as the facility’s design matches the needs of the production process, an unusually shaped building would not receive functional obsolescence adjustments based on the building's shape alone.

Determining the Depreciation Percentage for Yard Structures

This section provides instructions for calculating depreciation applicable to commercial and industrial yard structures. The following process is followed.

STEP 1 Determine the effective age of the yard structure by correlating the actual age of the yard structure with the structure condition classification in ***Table F-2. — Actual Age to Effective Age Conversion Table***.

STEP 2 Go to ***Table F-3e. — Typical Yard Structure Lives*** at the end of this appendix. Find the total life expectancy for the subject yard structure in these tables.

STEP 3 Go to ***Table F-4. — Depreciation – Commercial/Industrial Structures***. In the effective age column, locate the row corresponding to the structure's effective age as determined from Step 1.

STEP 4 Find the intersection of the selected row (effective age) and the selected column (total economic life expectancy). This number is the total depreciation percentage for the structure and represents all physical deterioration, functional and external obsolescence.

Example: A ten (10) year old, concrete parking lot, with a structure condition classification of fair has an effective age of twelve (12) years as shown in the ***Table F-2 — Actual Age to Effective Age Conversion Table***. It has a total economic life expectancy of fifteen (15) years as shown in ***Table 4-3e. — Typical Yard Structure Lives***. The total depreciation is then shown in ***Table F-4. — Depreciation – Commercial/Industrial Structures***.

Table F-1. Structure Condition Classifications

CLASSIFICATION	INDICATED DEPRECIATION
Excellent	All items that can normally be repaired or refinished have recently been corrected, such as new roofing, paint, HVAC overhaul or replacement, etc. The structure suffers no functional inadequacies of any kind and all short-lived components are in like-new condition. Excellent location for the type of structure.
Good	No obvious maintenance required with few signs of deterioration but not everything is new. The structure has above standard appearance and utility for structures of its age. Very good location for the type of structure.
Average	No evidence of deferred maintenance; need for a few minor repairs along with some refinishing. All major components still functional for age of the structure. Minor inutilities typical for structures of like age and design. Average location for the type of structure.
Fair	Evidence of deferred maintenance; need for replacement or major overhaul of some physical components. Building has inadequate utility and services for structures of like age and design. Fair location for the type of structure.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its age and design offer. Undesirable location for the type of structure.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is near the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer. Poor location for the type of structure.

Note: In determining condition classifications identify the classification that best fits the structure being assessed. Not all of the descriptions must be met. The intent is to classify a structure considering all physical, functional, and external factors and weighing them accordingly.

Table F-2. Actual Age to Effective Age Conversion Table

	EFFECTIVE AGE BASED UPON CONDITION CLASSIFICATION					
Actual Age	**Excellent**	**Good**	**Average**	**Fair**	**Poor**	**Very Poor**
0	0	0	0	0	0	0
01-03	1	2	2	2	3	3
04-06	3	4	5	6	7	8
07-09	4	6	8	9	11	12
10-12	6	8	11	12	15	17
13-15	7	11	14	15	18	21
16-18	9	13	17	19	23	26
19-21	10	15	20	22	26	30
22-24	12	17	23	25	30	35
25-27	13	20	26	29	34	39
28-30	15	22	29	32	38	44
31-33	16	24	32	35	42	48
34-36	18	26	35	39	46	53
37-39	19	29	38	42	50	57
40-42	21	31	41	45	54	62
43-45	22	33	44	48	58	66
46-48	24	35	47	52	62	71
49-51	25	38	50	55	65	75
52-54	27	40	53	58	69	80
55-57	28	42	56	62	71	80
58-60	30	44	59	65	73	80
61-63	31	47	62	68	75	80
64-66	33	49	65	72	79	80
67-69	34	51	68	75	80	80
70-72	36	53	71	78	80	80
73-75	37	56	74	80	80	80
76-78	39	58	77	80	80	80
79 and older	40	60	80	80	80	80

Table F-3a. Typical Structure Lives - GCM

		Framing Type			
Occupancy	Quality Grade	1 Wood Joist	2 Fire Resistant	3 Reinforced Concrete	4 Fireproof Steel
Apartment	≥ B	50	55	60	60
Apartment	≤ C	45	50	55	55
Auto Service	≥ B	40	45	50	50
Auto Service	C	35	40	45	45
Auto Service	≤ D	30	35	40	40
Auto Showroom	≥ B	40	45	50	50
Auto Showroom	C	35	40	45	45
Auto Showroom	≤ D	30	35	40	40
Bank	≥ B	50	55	60	60
Bank	C	45	50	55	55
Bank	≤ D	40	45	50	50
Bowling Alley	≥ B	35	40	45	45
Bowling Alley	≤ C	30	35	40	40
Car Wash Auto	≥ B	25	30	35	35
Car Wash Auto	C	20	25	30	30
Car Wash Auto	≤ D	20	20	25	25
Convenience Market	≥ A	40	45	50	50
Convenience Market	B, C	35	40	45	45
Convenience Market	≤ D	30	35	40	40
Country Club	≥ B	45	50	55	55
Country Club	≤ C	40	45	50	50
Dining/Lounge	≥ A	40	40	45	45
Dining/Lounge	B, C	35	35	40	40
Dining/Lounge	≤ D	30	30	35	35
Funeral Home	≥ A	50	50	55	55
Funeral Home	B, C	45	45	50	50
Funeral Home	≤ D	35	40	45	45
Garage - Parking	≥ B	35	40	45	45
Garage - Parking	≤ C	30	35	40	40
Health Club	≥ B	40	45	50	50
Health Club	≤ C	35	40	45	45
Hotel	≥ B	45	50	60	60
Hotel	C	45	50	55	55
Hotel	≤ D	40	45	50	50
Ice Rink	≥ B	40	45	50	50
Ice Rink	C	35	40	45	45
Ice Rink	≤ D	30	35	40	40
Motel	≥ B	45	50	60	60
Motel	C	45	50	55	55

		FRAMING TYPE			
Occupancy	**Quality Grade***	**1 Wood Joist**	**2 Fire Resistant**	**3 Reinforced Concrete**	**4 Fireproof Steel**
Motel	≤ D	40	45	50	50
Nursing Home	≥ A	50	55	60	60
Nursing Home	B, C	45	50	55	55
Nursing Home	≤ D	40	45	50	50
Office - General	≥ B	50	55	60	60
Office - General	C	45	50	55	55
Office - General	≤ D	40	45	50	50
Office - Medical	≥ B	40	45	50	50
Office - Medical	≤ C	35	40	45	45
Retail - Department Store	≥ B	45	50	55	55
Retail - Department Store	≤ C	40	45	50	50
Retail – Discount Store	≥ B	35	40	45	45
Retail – Discount Store	≤ C	30	35	40	40
Retail - General	≥ B	45	50	55	55
Retail - General	C	40	45	50	50
Retail - General	≤ D	40	40	45	45
Shopping Ctr. - NH	≥ C	35	40	45	45
Shopping Ctr. - NH	≤ D	30	35	40	40
Shopping Ctr. - Regional	≥ B	50	55	55	55
Shopping Ctr. - Regional	≤ C	45	50	55	55
Supermarket	≥ A	40	45	50	50
Supermarket	B, C	35	40	40	40
Supermarket	≤ D	30	35	40	40
Theater	≥ A	40	45	50	50
Theater	B, C	35	40	45	45
Theater	≤ D	30	35	40	40
Utility/Storage	≥ B	30	35	40	40
Utility/Storage	C	25	30	35	35
Utility/Storage	≤ D	20	25	30	30

* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3b. Typical Structure Lives - GCI

Occupancy	Quality Grade*	FRAMING TYPE 1 Wood Joist	2 Fire Resistant	3 Reinforced Concrete	4 Fireproof Steel
Garage - Commercial	≥ B	35	40	45	45
Garage - Commercial	≤ C	30	35	40	40
Hangar	≥ AA	40	45	50	50
Hangar	A, B	35	40	45	45
Hangar	C	35	40	45	45
Hangar	≤ D	30	35	40	40
Manufacturing - Heavy	≥ B	50	55	60	60
Manufacturing - Heavy	≤ C	45	50	55	55
Manufacturing - Light	≥ B	40	45	50	50
Manufacturing - Light	C	35	40	50	50
Manufacturing - Light	≤ D	35	40	45	45
Manufacturing - Loft	≥ A	50	55	60	60
Manufacturing - Loft	B, C	40	50	55	55
Manufacturing - Loft	≤ D	35	40	50	50
Manufacturing – Mill	All	40	50	60	60
Office - Industrial	≥ B	35	40	45	45
Office - Industrial	C	30	35	40	40
Office - Industrial	≤ D	25	30	35	35
Power Generating Plant	All	45	50	55	55
Research & Development	≥ B	45	50	55	55
Research & Development	C	40	45	50	50
Research & Development	≤ D	35	40	50	50
Shop - Small	≥ B	30	35	40	40
Shop - Small	≤ C	25	30	35	35
Storage - Heavy Utility	≥ B	50	55	60	60
Storage - Heavy Utility	≤ C	45	50	55	55
Storage - Light Utility	≥ B	30	35	40	40
Storage - Light Utility	C	25	30	35	35
Storage - Light Utility	≤ D	20	25	30	30
Terminal – Truck	All	40	45	50	50
Warehouse – Light	≥ B	40	45	50	50
Warehouse – Light	C	35	40	50	50
Warehouse – Light	≤ D	35	40	45	45
Warehouse – Loft	≥ A	50	55	60	60
Warehouse – Loft	B, C	40	50	55	55
Warehouse – Loft	≤ D	35	40	50	50
Warehouse – Mini	≥ B	40	45	50	50
Warehouse – Mini	C	35	40	45	45
Warehouse – Mini	≤ D	30	35	40	40

* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3c. Typical Structure Lives - GCR

Occupancy	Quality Grade*	FRAMING TYPE 1 Wood Joist
Apartment	≥ A	55
Apartment	B, C	50
Apartment	≤ D	45
Bank	≥ B	50
Bank	C	45
Bank	≤ D	40
Dining/Lounge	≥ A	40
Dining/Lounge	B, C	35
Dining/Lounge	≤ D	30
Funeral Home	≥ A	50
Funeral Home	B, C	45
Funeral Home	≤ D	35
Motel	≥ B	40
Motel	C	35
Motel	≤ D	30
Nursing Home	≥ B	40
Nursing Home	≤ C	35
Office - General	≥ B	50
Office - General	C	45
Office - General	≤ D	40
Office - Medical	≥ B	40
Office - Medical	≤ C	35

* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3d. Typical Structure Lives - GCK

Occupancy	Quality Grade*	FRAMING TYPE Light, Pre-engineered Steel and Pole Frame
All occupancies	≥ B	35
All occupancies	C	30
All occupancies	≤ D	25

* ≤ means equal to or less than the quality grade shown; ≥ means equal to or greater than the quality grade shown

Table F-3e. Typical Structure Lives – Yard Structures

Yard Structure	Quality Grade	Life Expectancy
Bins – Corrugated Metal	All	15
Bins - Dry Storage	All	30
Bleachers - Permanent	Steel	30
Bleachers - Permanent	Wood	20
Bleachers - Portable	All	25
Bridges – Highway	All	60
Bridges – Pedestrian	All	30
Bridges - Skyway	All	30
Bulkhead Piling	Conc.	35
Bulkhead Piling	Stone	25
Bulkhead Piling	Wood	5
Canopies C/I	≥ B	30
Canopies C/I	≤ C	20
Car Wash Buildings – Do It Yourself	≥ B	30
Car Wash Buildings – Do It Yourself	C	25
Car Wash Buildings – Do It Yourself	≤ D	20
Car Wash Buildings – Drive Thru	≥ B	30
Car Wash Buildings – Drive Thru	C	25
Car Wash Buildings – Drive Thru	≤ D	20
Chimneys – Brick	All	40
Chimneys – Metal	All	25
Courses - Miniature Golf	All	5
Courts - Paddle Tennis	All	20
Courts - Shuffle Board	All	25
Courts – Tennis	Asp	20
Courts – Tennis	Clay	10
Dikes – Earth	All	5
Docks – Commercial; Steel Piles	Steel	30
Docks – Commercial; Wood Piles	Wood	25
Elevators – Grain	Conc.	60
Elevators – Grain	Steel	35
Fence - Chain Link	All	15
Fence – Wood	All	10
Greenhouses – Aluminum	All	25
Greenhouses – Pipe	All	20
Greenhouses – Steel	All	20
Greenhouses - Wood	All	10
Guard Rails	All	10
Horizontal Storage	All	45
Incinerators - Brick	All	20
Incinerators - Steel	All	15

YARD STRUCTURE	QUALITY GRADE	LIFE EXPECTANCY
Liners - Landfill	All	25
Masonry Walls	All	25
Paving – Asphalt	All	10
Paving – Concrete	All	15
Paving – Crushed Stone	All	5
Railroad Siding	All	10
Retaining Walls	All	10
Silos - Trench and Bunker	All	20
Stacks – Concrete and Brick	All	40
Stacks – Steel	All	25
Stadiums - Sports	All	40
Standpipes – welded steel	All	30
Surface Reservoirs – concrete tanks	All	35
Tanks - Bulk Storage	All	25
Tanks - Elevated Steel	All	35
Tanks - Fuel Oil	All	25
Tanks - General	All	20
Tanks - Oil Storage; Bolted Steel Type	All	25
Tanks - Oil Storage; Welded Steel Type	All	25
Tanks - Water Storage; Steel (Reservoirs)	All	30
Tanks - Water Storage; Wood	All	20
Tanks - Welded Steel Pressure	All	20
Theaters - Drive-In	All	30
Towers	All	50
Tracks - Running	All	20
Turf - Artificial	All	5

Table F-4. Depreciation - Commercial and Industrial Structures

Effective Age	TOTAL ECONOMIC LIFE EXPECTANCY											
	60	55	50	45	40	35	30	25	20	15	10	5
0	0	0	0	0	0	0	0	0	0	0	0	0
01-03	1	2	2	2	3	4	4	6	7	8	20	40
04-06	4	4	5	6	7	9	12	15	20	35	40	80
07-09	6	7	8	10	12	15	19	25	33	42	60	80
10-12	9	10	12	14	18	22	28	36	48	60	80	80
13-15	12	13	16	19	24	29	37	48	61	80	80	80
16-18	15	17	20	25	30	37	46	59	73	80	80	80
19-21	18	21	25	30	37	45	56	71	80	80	80	80
22-24	21	24	29	36	44	54	65	77	80	80	80	80
25-27	25	29	35	43	52	62	74	80	80	80	80	80
28-30	29	34	41	49	59	70	78	80	80	80	80	80
31-33	34	40	47	56	67	74	80	80	80	80	80	80
34-36	38	45	53	62	72	78	80	80	80	80	80	80
37-39	43	51	59	69	77	80	80	80	80	80	80	80
40-42	49	57	64	73	79	80	80	80	80	80	80	80
43-45	54	62	69	77	80	80	80	80	80	80	80	80
46-48	59	66	73	79	80	80	80	80	80	80	80	80
49-51	64	71	77	80	80	80	80	80	80	80	80	80
52-54	68	75	79	80	80	80	80	80	80	80	80	80
55-57	71	78	80	80	80	80	80	80	80	80	80	80
58-60	73	79	80	80	80	80	80	80	80	80	80	80
61-63	76	80	80	80	80	80	80	80	80	80	80	80
64-66	78	80	80	80	80	80	80	80	80	80	80	80
67-69	79	80	80	80	80	80	80	80	80	80	80	80
70-72	80	80	80	80	80	80	80	80	80	80	80	80
73-75	80	80	80	80	80	80	80	80	80	80	80	80
76+	80	80	80	80	80	80	80	80	80	80	80	80

Using the Commercial Swimming Pool Depreciation Table

There is one (1) commercial swimming pool depreciation table. In order to use this table you must first determine the age of the swimming pool.

The actual age of the swimming pool on the date of the general reassessment is to be used. Should the pool show excessive deferred maintenance for its actual age, an effective age of six (6) years less than the pool's construction year may be used to determine total depreciation.

Notes: Swimming pools are only depreciated during the general reassessment year; no further depreciation is to be applied until the next general reassessment.

No obsolescence is to be given on commercial swimming pools.

To determine the total depreciation percentage for a swimming pool, perform the following steps:

STEP 1: In the "Age" column, locate the row corresponding to the swimming pool's actual age or effective age.

STEP 2: Find the intersection of the selected row (age) and the "Depreciation" column. This number is the total depreciation percentage for the swimming pool.

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a commercial swimming pool are provided in the section "***Calculating the Remainder Value***" in Chapter 7.

Table F-5. Commercial Swimming Pool Depreciation

Price swimming pool from standard schedule and depreciate on the basis of a 20 year life expectancy, as follows:

Age	Depreciation
01-02	5
03-04	10
05-06	15
07-08	20
09	25
10	30
11-12	35
13-14	40
15-16	50
17-18	55
19-20	60
21-22	65
23-25	70
Over 25	75-80

~~Using the Golf Course Physical Deterioration Table~~

~~There is one (1) golf course normal depreciation table. In order to use this table you must first determine the condition and actual age of the golf course as explained in this Appendix.~~

~~To determine the normal depreciation percentage for a golf course, perform the following steps:~~

~~Step 1: In the rating column, locate the row corresponding to the golf course's condition.~~

~~Step 2: Find the intersection of the selected row (condition) and the "Depreciation" column. This number is the normal depreciation percentage for the golf course.~~

~~**Note:** Instructions for recording the normal depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a golf course are provided in the section ***Calculating the Remainder Value*** in Chapter 7.~~

~~**Table F-6. Golf Course Depreciation**~~

~~Suggested normal depreciation allowances based upon a composite rating of the overall condition, desirability and functional usefulness of the course. Use after three (3) years.~~

~~NOTE: The indicated depreciation listed refers to the following items:~~

- ~~Tees~~
- ~~Bunkers~~
- ~~Greens~~
- ~~Lakes~~
- ~~Sprinkler systems~~
- ~~Site preparation~~
- ~~Landscaping~~

~~Rating~~	~~Indicated Depreciation~~	~~Depreciation Percentage~~
~~Excellent~~	~~No deferred maintenance exists. All items that can normally be repaired or refurbished have recently been corrected. The course has superior appearance for courses of its age and design. The course suffers no functional inadequacies of any kind and short-lived components are in like-new condition.~~	~~0~~
~~Good~~	~~No obvious maintenance required with few signs of deterioration but not everything is new. The course has above standard appearance and utility for courses of its age and design.~~	~~10~~
~~Average~~	~~No evidence of deferred maintenance; need for a few minor repairs along with some refurbishing. All major components still functional for age of the course. Minor inutilities typical for courses of like age and design.~~	~~15~~
~~Fair~~	~~Evidence of deferred maintenance; need for replacement or major overhaul of some items. Course has inadequate utility and services for courses of like age and design.~~	~~20~~
~~Poor~~	~~Many repairs needed; the course suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of courses of its age and design offer.~~	~~25~~
~~Very Poor~~	~~Extensive repairs needed; the course suffers from extensive deferred maintenance. It suffers from extensive inutilities in that it lacks most amenities that the majority of courses of its age and design offer.~~	~~50~~

~~Note: In determining condition ratings identify the rating that best fits the course being assessed. Not all of the descriptions must be met. The intent is to classify a course considering all physical and functional factors and weighing them accordingly.~~

~~Add an additional allowance for extraneous devaluing factors contributing to economic obsolescence as may be required~~

~~EXTERNAL OBSOLESCENCE (1 - 3 years)~~					~~-~~	~~-~~
~~-~~	~~EX~~	~~G~~	~~AV~~	~~F~~	~~P~~	~~VP~~
~~0 to 1 year old~~	~~30~~	~~35~~	~~35~~	~~35~~	~~40~~	~~60~~
~~1 to 2 year old~~	~~20~~	~~25~~	~~25~~	~~25~~	~~25~~	~~40~~
~~2 to 3 year old~~	~~10~~	~~10~~	~~10~~	~~10~~	~~15~~	~~20~~

~~Note: External obsolescence is applied to the remaining value~~
~~After normal depreciation is applied.~~

Using the Riverboat Depreciation Table

There is one (1) riverboat depreciation table. In order to use this table you must first determine the actual age of the riverboat.

To determine the total depreciation percentage for a riverboat, perform the following steps:

STEP 1: In the "Age" column, locate the row corresponding to the riverboat's actual age.

STEP 2: Find the intersection of the selected row (age) and the "Depreciation" column. This number is the total depreciation percentage for the riverboat.

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a riverboat are provided in the section "***Calculating the Remainder Value***" in Chapter 7.

Table F-7. Riverboat Depreciation

ACTUAL AGE	DEPRECIATION
01	5
02	10
03-04	15
05-06	20
07-08	25
09-10	30
11-12	35
13-14	40
15-16	45
17-20	50
21-26	55
27-30	60
Over 30	65

Calculating Total Depreciation Percentage for Special Use Commercial Properties

Special use commercial properties are special purpose buildings (fast food restaurants and service stations) that are not readily adaptable to other uses. These types of structures go out of style both functionally and economically at a faster rate than they physically deteriorate due to changes in consumer preferences and demand. The businesses they house are highly competitive and rely heavily on site location and physical appearance. In order to keep up with the competition, owners renovate the interiors of the structures more frequently than they do on most general commercial structures.

Competition, oversaturation, changes in consumer habits, and changes in traffic patterns are a few of the factors that have an influence on the success of the operation. The obsolescence caused by these factors influences the life span of the buildings. Periodic renovation of these type structures cures most forms of obsolescence. Therefore actual age must be converted to effective age following the guidelines earlier in this appendix used for determining effective age.

A depreciation table that reflects the relatively short life of this type structure is provided in this Appendix. The table reflects normal physical depreciation and obsolescence.

To determine the total depreciation for special use commercial properties, perform the following steps:

STEP 1 Assign a structure condition classification to the structure relative to structures of similar age. Structure condition classifications are summarized in ***Table F-1. — Structure Condition Classifications*** earlier in this appendix.

STEP 2 Determine the effective age of the structure by correlating the actual age (weighted age) with the structure condition classification in ***Table F-2. — Actual Age to Effective Age Conversion Table*** located earlier in this appendix.

STEP 3 In the "Effective Age" column of the Special Use Commercial Table, locate the row corresponding to the effective age of the building.

STEP 4 Find the intersection of the selected row (effective age) and the "Depreciation" column. This number is the total depreciation percentage for the building.

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of special use commercial structure are provided in the section "***Calculating the Remainder Value***" section in Chapter 8.

Table F-8. Special Use Commercial Property Depreciation

Effective Age in years	Depreciation
01	5
02	10
03	15
04	20
05	25
06	30
07-08	35
09-10	40
11-12	45
13-14	50
15-16	55
17-19	60
20-21	65
22-24	70
25-30	75
Over	80

Grain Elevator Depreciation Considerations

Grain elevators are special purpose structures and, with very few exceptions are rarely convertible into other uses. Therefore, the assessing official must carefully estimate all forms of depreciation correctly. Table F-4e allows the assessor to determine the physical deterioration and normal obsolescence suffered by the grain elevator but does not account for abnormal obsolescence caused by such factors as excess storage capacity, lack of transportation facilities (major highways, railroads, or waterways), nor other types of inutilities caused by changes in the agricultural economy.

Besides the normal depreciation from Table F-4e, the assessing official must also determine the amount of abnormal obsolescence caused by factors such as these. The determination of the amount of abnormal obsolescence requires a comparative analysis of current operating data and the total licensed capacity. For example, a grain elevator has a total licensed capacity of 300,000 bushels. Over the last five years of operation, the elevator has stored an average of 240,000 bushels. Therefore it is suffering from abnormal functional obsolescence because, in the current market, it has 60,000 bushels of excess capacity.

The assessing official should value the grain elevator by first calculating the replacement cost new of the structure. Taking the average number of bushels stored for the most recent five years and multiplying by the unit costs given in this manual accomplishes this. Replacement cost is preferred as opposed to replacement cost because replacement cost estimates the cost of a physical structure with similar utility. Replacement cost eliminates the cost of obsolete materials, design, and building techniques. In so doing, most forms of functional obsolescence have been "cured" and do not have to be accounted for in the depreciation estimate. The assessor should then follow the steps outlined in this-appendix for determining the normal depreciation and apply this depreciation percentage to the replacement cost new estimate.

The amount of abnormal obsolescence should be reviewed annually and adjusted if necessary.

Content

Glossary

The real estate appraisal terms and definitions in this glossary apply throughout the ***Real Property Assessment Guidelines***.

abatement	(1) An official reduction or elimination of one's assessed valuation after completion of the original assessment. (2) An official reduction or elimination of one's tax liability after completion of the tax roll.
acre	A land measure equal to 43,560 square feet, or 160 square rods.
acreage	Unsubdivided land that is customarily measured in terms of acres rather than front feet or square feet.
actual age	The number of years elapsed since the original construction up to the effective valuation date. Also referred to as historical age or chronological age. *See also* effective age.
ad valorem tax	A tax based on the value of the property.
addition	An extension or increase in the floor area or height of a building, room, or structure. Term is also used to denote a subdivision.
adjustments	Modifications in the reported value of a variable, such as sale price. *For example*, adjustments can be used to estimate market value in the sales comparison approach by modifications for difference between comparable and subject properties.
aerial photograph	A photograph of a part of the earth's surface taken by an aircraft-supported camera.
affidavit	A written form of an affirmed or sworn statement.
agricultural property	The land and improvements devoted to or best adaptable for the production of crops, fruits, timber, and the raising of livestock.
air circulation, forced	A means of providing space conditioning utilizing movement of air through ducts by mechanical means.
air rights	The right to the use of a certain specified space within the boundaries of a parcel of land and above a specified elevation.
air-conditioning system	An air-conditioning system consists of heat exchangers, blowers, filters, supply exhaust, and return-air systems, and includes any apparatus installed in connection therewith.
alley influence	(1) The effect of accessibility or proximity to a side or rear alley on the value of a lot or parcel. (2) The increment of value resulting from accessibility or proximity to a side or rear alley.
alligatoring	Many small, hairline type cracks (also known as spider cracks) in concrete, in painted surfaces, or on roll roofing. The condition looks like the scales on the back of an alligator.

~~amenities~~amenity	~~The intangible benefits arising out of ownership of property.~~A feature of an improvement that enhances its suitability for its basic use. A fireplace in a single-family residence is an amenity, as is covered parking at an apartment complex. By definition, amenities always increase value.
amortization	A payment plan by which a loan is reduced through monthly payments of principal and interest.
anchor bolt	A bolt used to anchor structural members to concrete or the foundation.
annual percentage rate (APR)	Annual cost of credit over the life of a loan, including interest, service charges, points, loan fees, mortgage insurance, and other terms.
annually assessed mobile home	A mobile home that does not meet either of the following requirements ▪ Permanently attached to a foundation or ▪ the owner has surrendered the certificate of title under IC 9-17-6-15.1
apartment hotel	A building designed for non-transient residential use. It is divided into dwelling units similar to an apartment house, but has such hotel accommodations as room furnishings, lounges, public dining room, and maid service.
apartment house	A multiple family residence containing three or more non-transient residential living units, and generally containing a number of common facilities and services.
appeal	A process in which a property owner contests an assessment either informally or formally.
appraisal	An estimate, usually in written form, of the value of a specifically described property as of a specified date. It may be used synonymously with valuation or appraised value.
appraisal schedule	Any standardized schedule or table used in conjunction with a revaluation program, such as a replacement cost pricing schedule, depreciation table, or land depth table.
appraised value	The estimate of the value of a property before application of any fractional assessment ratio, partial exemption, or other adjustments.
appraiser	A person who estimates value or possesses the expertise to execute or direct the execution of an appraisal. In IC 6-1.1-31.7, an appraiser is a professional appraiser or appraisal firm that contracts with a jurisdiction under IC 6-1.1-4 and is certified under rules promulgated by the Department of Local Government Finance.
appreciation	Increase in value of a property, in terms of money, from causes other than additions and betterments. *For example*, a farm may appreciate if a shopping center is built nearby, and property of any sort may appreciate as a result of inflation.

appurtenance	Any addition to a property that becomes a part of that property. Generally, an appurtenance differs from a fixture in that a fixture was once considered personal property.
area wells	Corrugated metal or concrete barrier walls installed around a basement window to hold back the earth.
arm's-length transaction	(1) A sale between a willing buyer and a willing seller that are unrelated and are not acting under duress, abnormal pressure or undue influence. (2) A sale between two unrelated parties, both seeking to maximize their positions from the transaction.
asphalt shingle	The most common type of roof shingle in this country, made by impregnating mats of fiberglass or organic felt materials such as rags, paper, and wood pulp, with asphalt and covering one surface with mineral granules.
assessed value	An amount equal to 100% of the true tax value of property. Also referred to as assessed valuation.
assessing	The act of valuing a property for the purpose of establishing a tax base.
assessment	The value of taxable property to which the tax rate is to be applied in order to compute the amount of taxes. It may be used synonymously with assessed value, taxable value, true tax value, and tax base.
assessment date	~~March~~ January 1 for all tangible property. ~~In this revision, it means March 1, 2011, and each March 1 until the next general reassessment under IC 6-1.1-4-4.~~
assessment notice	A written notification to a property owner of the assessed value of certain properties described in the notice. It is mandated by law to be given to each property owner following a revaluation of the property. Also referred to as Form 11.
assessment period	The period of time during which the assessment of all properties within a given assessment district must be completed. It is also the period between tax lien dates.
assessment roll	The official listing of all properties within a given taxing jurisdiction by ownership, description, and location showing the corresponding assessed value for each. Also referred to as tax list, tax book, tax duplicate, and tax roll.
assessor	The administrator charged with the assessment of property for ad valorem taxes.
assumption	Allows a buyer to assume responsibility for an existing loan instead of getting a new loan.
attached dwelling	A multiple family dwelling in which the dwelling units are separated vertically by means of a common or party wall.
attached garage	A garage that is part of the main structure.

attic — An unfinished or finished portion of a building lying between the highest finished story and the roof, and wholly within the roof framing.

attic access — An opening that is placed in the dry-walled ceiling of a home providing access to the attic.

attic space ventilation — Any means of removing hot or stale air from an attic space such as ridge vents, powered or gravity turbines, gable vents, and so forth, in conjunction with eave or soffit vents.

backfill — Loose earth placed outside foundation walls for filling and grading.

balloon — A loan that has a series of monthly payments with the remaining balance due in a large lump sum payment at the end.

balloon-framed wall — Framed walls (generally over 10′ tall) that run the entire vertical length from the floor sill plate to the roof. This is done to eliminate the need for a gable end truss.

balusters — Vertical members in a railing used between a top rail and a bottom rail or the stair treads. Sometimes referred to as "pickets" or "spindles".

balustrade — The rail, posts, and vertical balusters along the edge of a stairway or elevated walkway.

base or baseboard — A trim board placed against the wall around the room next to the floor.

base price — A value or unit rate established for a certain specified model, and subject to adjustments to account for variations between that particular model and the subject property under appraisement.

base shoe — Molding used next to the floor on the interior base board. Sometimes referred to as a "carpet strip".

basement — A building story that is wholly or partially below the grade level with either no window openings or a minimum number of small window openings within the perimeter walls.

basement window inserts — The window frame and glass unit that is installed in the window buck.

bay — One of the following:

- a horizontal area division of a building usually defined as the space between columns or division walls
- an internal recess formed by a wall projecting beyond its general line.

bay window — A window, or group of continuous windows, projecting from the main wall of a building.

beam	A horizontal member of wood, reinforced concrete, steel, or other material used to span the space between posts, columns, girders, or over an opening in a wall. ▪ Continuous beam—a beam that has more than two points of support ▪ Cantilevered beam—a beam that is supported at only one end and is restrained against excessive rotation. ▪ Simple beam—a beam that is freely supported at both ends, theoretically with no restraint.
bearing wall	A wall designed primarily to withstand vertical pressure in addition to its own weight.
blighted area	A declining area characterized by marked structural deterioration or environmental deficiencies, or both.
breaker panel	The electrical box that distributes electric power entering the home to each branch circuit (each plug and switch) and composed of circuit breakers.
brick construction	A type of construction in which the exterior walls are bearing walls made of solid brick or brick and tile masonry.
brick veneer construction	A type of construction in which the exterior walls are one layer brick curtain walls backed by a wood frame.
bridging	The structural member used to give lateral support to the weak plane of a truss, joist, or purlin. It provides sufficient stability to support the design loads, sag channels, or sag rods.
British Thermal Unit (BTU)	A unit of heat required to raise one pound of water one degree Fahrenheit.
building	Any structure partially or wholly above ground that is designed to afford shelter to persons, animals, or goods.
built-up roof	A roofing composed of three to five layers of asphalt felt laminated with coal tar, pitch, or asphalt. The top is finished with crushed slag or gravel. Generally used on flat or low-pitched roofs.
bungalow	A one-story unit that is somewhat more pretentious than a cottage.
bus company	A company, other than a street railway company, that is principally engaged in the business of transporting persons for hire by bus on regularly scheduled routes in or through two or more jurisdictions of this state.
cadastral map	A scale map displaying property ownership boundaries and showing the dimensions of each parcel with related information such as parcel identifiers, survey lines, and easements. Annotations on recent sale prices and land values are sometimes added.
capitalization rate	Any rate used to convert an estimate of future income to an estimate of market value; the ratio of net operating income to market value.

casing	Wood-trim molding installed around a door or window opening.
caulking	(1) A flexible material used to seal a gap between two surfaces (i.e. between pieces of siding or the corners in tub walls). (2) To fill a joint with mastic or asphalt plastic cement to prevent leaks.
ceiling joist	One of a series of parallel framing members used to support ceiling loads and supported in turn by larger beams, girders, or bearing walls. Also referred to as "roof joists".
central business district	The center of the city where the primary commercial, governmental, and recreational activities are concentrated.
central system	Includes property used for heating, air conditioning, ventilation, sanitation, fixed fire protection, lighting, plumbing, or drinking water.
CFM (cubic feet per minute)	A rating that expresses the amount of air a blower or fan can move. The volume of air (measured in cubic feet) that can pass through an opening in one minute.
chair rail	Interior-trim material installed about 3-4′ up the wall, horizontally.
chase	A framed enclosed space around a flue pipe or a channel in a wall, or through a ceiling for something to lie in or pass through.
chattel	Tangible personal property.
chronological age	The number of years elapsed since an original structure was built. Also referred to as "actual age" or "historical age".
coefficient of dispersion	The average deviation of a group of numbers from the median expressed as a percentage of the median.
coefficient of variation	A standard statistical measure of the relative dispersion of the sample data about the mean of the data; the standard deviation expressed as a percentage of the mean.
cold air return	The ductwork (and related grills) that carries room air back to the furnace for re-heating.
collar	Performed flange placed over a vent pipe to seal the roofing above the vent pipe opening. Also referred to as a "vent sleeve".
column	A structurally-isolated vertical member that is at least eight to ten times as long as its least lateral dimension and that is designed to carry loads.
combustion air	The duct work installed to bring fresh, outside air to the furnace and/or hot water heater. Normally, two (2) separate supplies of air are brought in: (1) high; and (2) low.
combustion chamber	The part of a boiler, furnace, or woodstove where the burn occurs. Normally, lined with firebrick or molded or sprayed insulation.

common area	(1) Residential property improvements on real property on which a building that includes two (2) or more dwelling units, a mobile home, or a manufactured home is located, including all roads, swimming pools, tennis courts, basketball courts, playgrounds, carports, garages, other parking areas, gazebos, decks, and patios. (2) The land and all appurtenances to the land used in connection with a building or structure described in (1), including land that is outside the footprint of the building, mobile home, manufactured home, or improvement.
common wall	A wall owned by one party, but jointly used by two parties, one or both of whom is entitled to such use under the provisions of a lease or deed.
component part-in-place method	The application of the unit-in-place method to unit groupings or construction components.
compression web	A member of a truss system which connects the bottom and top chords and which provides downward support.
compressor	A mechanical device that pressurizes a gas in order to turn it into a liquid, thereby allowing heat to be removed or added. A compressor is the main component of conventional heat pumps and air conditioners. In an air conditioning system, the compressor normally sits outside and has a large fan to remove heat.
computer-assisted mass appraisal (CAMA)	A system of appraising property (usually only certain types of real property) that incorporates computer-supported statistical analyses such as multiple regression analysis and adaptive estimation procedure to assist the appraiser in estimating value.
condensing unit	The outdoor component of a cooling system. Also includes a compressor and condensing coil designed to give off heat.
conditioned air	Air treated to control its temperature, relative humidity, or quality.
conduit	A tube, pipe, or small artificial tunnel used to enclose wires or pipes or to convey water or other fluids.
construction year	The year of the original construction for a structure.
coping	A special capping at the top of a wall, serving principally as a watershed.
cornice	A projecting element at the top of a wall, serving principally as a decoration or as part of the coping.
cost approach	One of the three approaches to valuation by which an indication of the value of a property is arrived at by estimating the value of the land, the replacement cost new of the improvement, and the amount of depreciation to the improvement. The estimated land value is added to the estimated depreciated value of the improvements to arrive at the estimated property value.

cottage	A one-story or two-story dwelling unit of small size and humble character.
counterfort	A foundation wall section that strengthens (and generally is perpendicular to) a long section of a foundation wall.
county executive	Refers to the ■ board of commissioners, for a county not having a consolidated city ■ mayor of the consolidated city, for a county having a consolidated city.
course	A uniform horizontal layer of brick, stone, terra cotta, shingles, or some other structural material, extending continuously around a building or along a wall.
court	An open space bordered on two or more sides by the walls of a single building, or two or more buildings, and by a lot line or a yard on any side not so bordered.
crawl space	A shallow space ~~between the first tier of flooring and the ground (not a basement).~~ below the living quarters of a house, normally enclosed by the foundation wall and having a dirt floor.
cricket	A second roof built on top of the primary roof to increase the slope of the roof or valley. A saddle-shaped, peaked construction connecting a sloping roof with a chimney. Designed to encourage water drainage away from the chimney joint.
crown molding	A molding used on cornice or wherever an interior angle is to be covered, especially at the roof and wall corner.
cubic content	The cubic volume of a building within the outer surface of the exterior walls and roof, and the upper surface of the lowest floor.
culvert	Round, corrugated drain pipe (normally 15″ or 18″ in diameter) that is installed beneath a driveway and parallel to and near the street.
curb roof	A roof in that the pitch of the upper part of a sloping side is less than the pitch of the lower part.
curtain wall	A nonbearing wall which is supported by columns, beams, or other structural members. The primary function is to enclose space.
damper	A metal "door" placed within the fireplace chimney. Normally closed when the fireplace is not in use.
de-humidistat	A control mechanism used to operate a mechanical ventilation system based upon the relative humidity in the home.
dead load	The weight of all permanent construction, including walls, floors, roofs, ceilings, stairways, and fixed service equipment, plus the net effect of pre-stressing.

decay	One of the three basic types of fungi that attack wood. Hard to determine in the early stages. It becomes very visible in the later stages. The wood might be brownish and crumbly or white and spongy in the advanced stage of the process.
deck	An exterior floor system supported on at least two opposing sides by an adjoining structure and/or posts, piers, or other independent supports.
deduction	Situation where a taxpayer is permitted to subtract a fixed dollar amount from the assessed value of his or her property.
deed	A written instrument that conveys an interest in real property. The following is a description of three types. ▪ A quit claim deed conveys the described interest without warranty of title. ▪ A trust deed conveys the described interest to a trustee. ▪ A warranty deed conveys the described interest with the provisions that the freehold is guaranteed by the grantor, his or her heirs, or successors.
depreciation	Loss in value from all causes. It can be further classified as follows: ▪ physical, the loss of value caused by physical deterioration ▪ functional obsolescence, the loss of value from an internal inutility ▪ external obsolescence, the loss of value from an externality
depreciation allowance	A loss of value expressed in terms of a percentage of cost new.
depreciation date	~~March 1, 2011.~~January 1, 2019.
depth factor	A multiplier applied to a unit land value to adjust the value of a particular lot to account for the depth of the lot.
depth table	A multiplier to a unit land value to adjust the value of a particular lot to account for the depth of the lot as compared to the standard lot.
design factor	A factor or multiplier applied to a computed replacement cost as an adjustment to account for cost variations attributable to the particular design of the subject property which were not accounted for in the particular pricing schedule used.
detached garage	A garage built as a separate building or structure, and not part of the main structure.
deterioration	An impairment of structural condition evidenced by the wear and tear caused by physical use and the action of the elements. Also referred to as physical depreciation.

distributable property	Property owned or used by a public utility company that is not locally assessed real property or locally assessed personal property. Distributable property is that property used to furnish the public utility service. The right-of-way of a public utility company is distributable property. It may consist of the public utility company's transportation system, production plant, transmission system, and/or distribution system. The Department of Local Government Finance distributes to the appropriate taxing districts the assessed value of the public utility company's distributable property.
doorjamb, interior	The surrounding case into which and out of which a door closes and opens. It consists of two upright pieces, called side jambs, and a horizontal head jamb. These three (3) jambs have the "door stop" installed on them.
dormer	One of the following: ▪ A relatively small structure projecting from a sloping roof. ▪ A window set upright in the face of such a structure.
double dwelling	A two-family dwelling in which the dwelling units are separated by means of a common or party wall.
double joists	Two joists nailed, glued, or otherwise bonded together and used to support a heavy load.
downspout	A pipe, usually of metal, for carrying rainwater down from the roof's horizontal gutters.
drywall	Interior wall construction consisting of plasterboard, wood paneling, or plywood nailed directly to the studs without application of plaster.
duplex dwelling	A two-family dwelling in which the two dwelling units are on separate floors and usually a private street entrance for each.
dwarf partition	A partition that ends short of the ceiling.
dwelling	Any building or portion of a building designed or occupied in whole or in part as a place of residence.
dwelling unit	Any room or group of rooms designed as the living quarters of one family or household, equipped with cooking and toilet facilities, and having an independent entrance from a public hall or from the outside.
easement	A formal contract which allows a party to use another party's property for a specific purpose. *For example*, a sewer easement might allow one party to run a sewer line through a neighbor's property.
easement by necessity	Arises when an owner divides his or her property, sells part of it, and the purchaser cannot get to the part he or she bought without crossing the seller's property. The purchaser acquires an easement over the seller's property.

eaves — The portion of a sloping roof that projects beyond the outside walls of a building.

economic life — The life expectancy of a property during which it can be expected to be profitably utilized.

economic obsolescence (or external obsolescence) — ~~Obsolescence caused by factors extraneous to the property. Also referred to as external obsolescence.~~(1) A cause of depreciation that is a loss in value as a result of impairment in utility and desirability caused by factors outside the property's boundaries. (2) Loss in value of a property (relative to the cost of replacing it with a property of equal utility) that stems from factors external to the property. *For example*, a buggy-whip factory, to the extent that it could not be used economically for anything else, suffered substantial economic obsolescence when automobiles replaced horse-drawn buggies.

effective age — The age of a structure as compared to other structures performing like functions. For mass appraisal purposes and for the valuation of real property within the State of Indiana, the **condition rating** will reflect the effective age of the structure. *See also* actual age.

effective assessment date — The date as of which the value estimate is applicable. In this publication, the effective assessment date is ~~March 1, 2011.~~January 1st.

effective depth — The depth, expressed in feet, upon which the selection of the depth factor is based.

effective frontage — The amount of frontage, expressed in linear feet, to which the unit land value is applied. The methods for determining effective frontage are described in Chapter 2, Book 1.

effective valuation date — In reference to a revaluation program, the date as of which the value estimate applies. In this publication, the effective valuation date is ~~March 1, 2011~~January 1st.

elevation — A drawing representing a projection of any one of the vertical sides or vertical cross sections of a building or of any other object.

encroachment — (1) The displacement of an existing use by another use. (2) The unauthorized trespassing of an improvement on the domain of another person's land.

encumbrance — Any limitation that affects property rights and value.

environmental deficiency — A neighborhood condition such as adverse land uses, congestion, and poorly designed streets, operating to cause economical obsolescence and, when coupled with excessive structural deterioration, blight.

equalization — A mass appraisal or reappraisal of all property within a given taxing jurisdiction with the goal of equalizing values in order to assure that each taxpayer is bearing only the fair share of the tax load. It may be used synonymously with revaluation program.

equalized values	Assessed values after they have all been multiplied by common factors during equalization.
equity	The tax load is distributed fairly or equitably. It is the opposite of inequity, which refers to an unfair or unequitable distribution of the tax burden. Inequity is a natural product of changing economic conditions and can be effectively cured only by periodical equalization programs.
escheat	The right to have property revert to the state for nonpayment of taxes or when there are no legal heirs of someone who dies without leaving a will.
estate in fee simple	An inheritable, possessory interest in land that may endure until the extinction of all lineal and collateral heirs of the first owner and that may be freely conveyed by its owner; the largest possible estate in land.
excessive frontage	An amount of frontage that is greater than the established front footage standard for a particular geographic area. The value adjustment for excessive footage is expressed as a negative influence factor.
exemption	A situation where a certain type of property, or the property of a certain kind of taxpayer, is not taxable under IC 6-1.1.
expando (or tip-out)	A designed room exterior that is transported as part of the home and, when expanded, or tipped out, creates an extension to a specific room.
facade	(1) The face of a building. (2) The main exterior face of an improvement.
fascia	A flat board, band, or face located at the outer edge of the cornice. Wood or other trim used to cover the ends of the exposed rafters at the edge of the roof.
fee simple title	Fee simple title indicates ownership that is absolute and subject to no limitation other than eminent domain, police power, escheat, and taxation.
fiberboard	A type of building board used for insulation, made of reduced fibrous material such as wood, cane, or other vegetable fibers.
field crew	The total professional staff assigned to a specific appraisal project, including listers, reviewers, staff appraisers, and clerical and administrative supporting personnel.
finger joint	A manufacturing process of interlocking two shorter pieces of wood end to end to create a longer piece of dimensional lumber or molding. Often used in jambs and casings and are normally painted (instead of stained).
fire resistant construction	Fire resistant structural floor and roof components consisting of formed concrete on steel framing or light concrete, metal deck, flexicore, gypsum, or similar materials on open steel joists and supported by load bearing walls of steel framing.

firebrick — Brick made to withstand a high temperature that is used for lining chimneys, incinerators, fireplaces, and other similar locales.

fireproof building — A building in which all parts carrying loads or resisting stresses and all exterior and interior walls, floors, and staircases are made of incombustible materials and in which all metallic structural members are encased in materials, that remain rigid at the highest probable temperature during a fire, or are amply insulated from the extreme temperature of a fire.

fireproof steel construction — Framed construction with fireproof structural floor and roof components consisting of either formed or precast concrete, supported by fireproof structural steel framing. The fireproofing may be masonry, poured concrete, plaster, sprayed asbestos, or any similar material yielding a similar fire resistance rating.

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

flashing — Sheet metal or other impervious materials used in roof construction to prevent water seepage between joints, such as around chimneys, dormers, roof hips, and roof valleys. *See also* step flashing.

flat — One of the following:

- any one floor of a building two or more stories high, each floor of which constitutes a single dwelling unit and has a private street entrance.
- the building containing two or more floors.

flat roof — A roof that is flat or sloped only enough to provide proper drainage.

floating — The next-to-last stage in concrete work, when you smooth off the job and bring water to the surface by using a hand float or bull float.

floating wall — A non-bearing wall built on a concrete floor. It is constructed so that the bottom two (2) plates can compress or pull apart if the concrete floor moves up or down. Normally built on basements and garage slabs.

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

'Form 11' — *See* assessment notice.

foundation — The structural members below grade level, or below the first tier of beams above grade level, which transmit the load of a superstructure to the ground.

foundation vent — An opening that permits the entry and circulation of air within the enclosed foundation.

framing	The structural steel or wood members (columns, rafters, girts, purlins, brace rods, and so forth) that go together to make up the skeleton of a structure ready for covering to be applied.
front foot	A strip of land one (1) foot wide that fronts on a desirable feature, such as a road or lake, and extends for the entire depth of the parcel.
frontage	The extent of a parcel of land along a street, road, river, or other traffic artery on which the parcel is said to face.
frost line	The deepest level below grade to which frost penetrates in a geographical area.
functional obsolescence	Obsolescence caused by factors inherent in the property itself.
functional utility	The composite effect of a property's usefulness and desirability upon its marketability.
furring strips	Thin wood, brick or metal applied to joists, studs or wall to form a level surface (as for attaching wallboard) or airspace.
gable	One of the following: ▪ The triangular portion of a wall between the slopes of a double sloping roof. ▪ The whole of the wall containing a triangular portion as described under this subdivision. ▪ A portion of a building extending from the remainder of the building and covered with a gable roof.
gable roof	A double-sloped roof whose cross section is in the shape of the inverted letter V.
gambrel roof	A curbed gable roof.
geographic information system (GIS)	(1) A database management system used to store, retrieve, manipulate, analyze, and display spatial information. (2) One type of computerized mapping system capable of integrating spatial data (land information) and attribute data among different layers on a base map.
geothermal heating and cooling system	A heating and cooling system that uses the natural temperature of the earth to generate heating and cooling.
girder	A large or principal beam used to support concentrated loads at isolated points along its length. Girders usually support the beams and structure above.
girt	Heavy timber framed into corner posts as support for the structure.
grade	The classification of an improvement based on certain construction specifications, design and quality of materials and workmanship.
grade factor	A factor or multiplier applied to a base grade level for the purpose of interpolating between grades or establishing an intermediate grade.

grantee	A person to whom property is transferred and property rights are granted by deed, trust instrument, or other similar documents.
grantor	A person who transfers property or grants property rights by deed, trust instrument, or other similar documents.
gross area	The total floor area of a building measured from the exterior of the walls.
gross income multiplier (GIM)	A capitalization technique that uses the ratio between the sale price of a property and its potential gross income or its effective gross income. Once calculated for several similar assets, a GIM may be multiplied against the income of a property to obtain an estimate of value.
gross rent multiplier (GRM)	(1) The factor by which gross rent is multiplied in order to obtain an estimate of value. (2) The ratio between sale price and potential gross income or effective gross income. By convention, the gross rent multiplier is typically the term used when developing the relationship based on monthly rent.
ground lease	A document entitling the lessee certain specified rights relating to the use of the land.
ground story	The first story lying wholly above the ground level.
hardware	All of the metal fittings that go into the home when it is near completion. *For example*, door knobs, towel bars, handrail brackets, closet rods, house numbers, door closers, etc.
header	One of the following: ▪ a structural member that is laid perpendicularly to a parallel series of similar members and against which the parallel members abut. ▪ a brick or other piece of masonry that is laid in a wall with its longest dimension extending along the thickness of the wall.
hearth	The floor of a fireplace or the area directly in front of the fireplace. It can be raised or flat as in a stepped hearth or a marble hearth.
heat meter	An electrical municipal inspection of the electric meter breaker panel box.
heat pump	A compression cycle system used to supply heat to a temperature-controlled space, which can also remove heat from the same source.
hip	A sloping line along which two roof surfaces meet to form an external angle of more than 180 degrees.
hip rafter	A rafter placed in an inclined position to support the edges of two sloping roof surfaces that meet to form an external angle of less than one hundred eighty degrees.

hip roof	One of the following: ▪ any roof having one or more hips. ▪ usually a roof with four sloping sides meeting along four hips or along four hips and a ridge.
homesite	A land area of one (1) acre per residential site on a parcel containing one (1) or more acres. If a developed residential site is less than one (1) acre, the homesite is the entire land area.
horizontal costs	Costs included for the components of the structure that are horizontal in nature and are directly linked to the square footage of the floor area in the building. These costs include, but are not limited to floor slabs, gypsum, structural floors, roof covering, floor covering, ceiling covering, roof structure, any insulation or extras that can be directly attributed to the square footage of the structure.
hotel	A building designed for transient or semitransient residential use. It is divided into furnished single rooms and suites, and has such accommodations as lounges, public dining rooms, and maid service.
HUD code	The federal adopted standards of construction as outlined in the Federal Manufactured Home Construction and Safety Standards Act of 1974, effective June 15, 1976.
i-beam	Rolled steel beam or built-up beam of an I-section.
improved land	Land developed with a water well/septic system or water hook-up/sewage disposal hook-up, and landscaping, walkways and residential driveway.
improved land value	The ~~2011~~ cost of vacant land plus the depreciated cost of installing water and sewage disposal systems landscaping, walkways and residential driveway.
improvement	Anything done to raw land with the intention of increasing its value. A structure erected on the property constitutes on very common type of improvement, although other actions, such as those taken to improve drainage, are also improvements.
improvements (other than buildings)	A fixed asset account that reflects the acquisition value of permanent improvements, other than buildings, that add value to land. *For example*, fences, retaining walls, sidewalks, pavements, gutters, and tunnels.
income capitalization	The process of dividing a property's net annual income by a capitalization rate in order to arrive at an estimated value.
industrial park	A subdivision designed and developed to accommodate specific types of industry.

industrial property	Land, improvements, or machinery, or all three, used or adaptable for use in the production of goods. It also includes supporting auxiliary facilities.
influence factor	A multiplier that is applied to the value of land to account for characteristics of a particular parcel of land that are peculiar to that parcel. The factor may be positive or negative and is expressed as a percentage.
institutional property	Land and improvements used in conjunction with providing public services and generally owned and operated by the government or other nonprofit organizations, such as hospitals, schools, or prisons.
jamb	~~Upright member forming the side(s) of a door or window opening.~~The side and head lining of a doorway, window, or other opening. Includes studs as well as the frame and trim.
joint	The location between the touching surfaces of two (2) members or components joined and held together by nails, glue, cement, mortar, or other means.
joint tenancy	A form of ownership in which the tenants own a property equally. If one tenant dies, the other automatically inherits the entire property.
joist	One of a series of small parallel beams laid on edge and used to support floor and ceiling loads. It is usually supported by larger beams and girders. They may be wood, steel, or concrete.
knee brace	Diagonal member placed across the inside angle of framework to stiffen the frame.
lally column	Concrete-filled cylindrical steel structural column.
land classification	The classification of land based upon its capabilities for use.
land contract	A purchase allowing the grantee possession of the property and the grantor retaining the deed to the property until the terms of the contract are met.
land use restrictions	Legal restrictions regulating the use of the land.
land value maps	Maps used in conjunction with mass appraising. It is drawn to a small scale and shows comparative unit land values on a block by block basis.
landscaping	Natural features such as lawns, shrubs, and trees added to a plot of ground or modified in such a way as to make it more attractive.
lath	A building material of narrow wood, metal, gypsum, or insulating board that is fastened to the frame of a building to act as a base for plaster, shingles, or tiles.

lean-to roof	One of the following: ▪ a roof having a single sloping side that is supported at the upper edge by the wall of an attached building or of a larger and higher portion of the same building. ▪ any roof with a single slope.
lease, lessee, or lessor	A written contract by which one party (lessor) gives to another party (lessee) the possession and use of a specified property for a specified time, and under specific terms and conditions.
leasehold	A property held under the terms of a lease.
leasehold improvements	Additions, renovations, and similar improvements made to a leased property by the lessee.
legal description	A description of real property by government survey, metes and bounds, or lot numbers of a recorded plat.
let-in braces	The diagonal braces notched into the studs of a wood framed house.
lien	An encumbrance that usually makes real or personal property the security for payment of a debt or discharge of an obligation.
light, heat, or power company	A company that is engaged in the business of furnishing light, heat, or power by electricity, gas, or steam. Light, heat, and power companies include investor-owned electric and steam heat companies, rural electric membership corporations, or natural gas distribution companies.
lintel	A beam over a wall opening, such as a door or windows, designed to carry the load of the wall over the opening. Horizontal steel member spanning an opening to support the load above.
lister	A field inspector whose principal duty is to collect and record property data.
live load	Any load on a structure other than a dead load, including the weight of persons occupying the building and freestanding objects.

locally assessed personal property (utilities)
Tangible personal property owned or used by a public utility company, excluding a railroad company, that is not used as part of the company's production plant, transmission system, or distribution system. Locally assessed personal property is reported on the appropriate form by the public utility company to the assessing official of the jurisdiction where the property is located.

In general, locally assessed personal property consists of the following:

- automotive and other mobile equipment, other than that of a bus company or railroad company
- office furniture and fixtures
- maintenance equipment not used as part of the production, transmission, or distribution system including general plant related items such as stores, tools, shops, and garage equipment
- inventory of materials held for use in production and property held for sale in the ordinary course of trade or business
- other tangible personal property that is not used as a part of the public utility company's production plant, transmission system, or distribution system.

locally assessed real property (utilities)
Real property owned or used by a public utility company that is assessed by the assessing official of the jurisdiction where it is located. Real property includes both land and improvements. The rights-of-way of a public utility company are not locally assessed real property. Of the land and improvements owned by a railroad company, only the right-of-way land and buildings leased to commercial tenants, the land adjoining the right-of-way devoted to industrial parks, any abandoned right-of-way, and other railroad land and buildings used for purposes other than railroad operations are locally assessed real property.

location multiplier
An adjustment to replacement or reproduction cost (new or historic cost) to reflect local costs.

loft
One of the following:

- An unpartitioned or relatively unpartitioned upper story of a building designed for storage, wholesaling, or light manufacturing.
- An area of a residential dwelling which is characterized as a finished platform-type area overlooking the first floor.

loft building
A building having three or more stories with few or no interior bearing walls and designed for storage, wholesaling, or light industrial purposes.

louver or louvre
A ventilator containing slats that are placed lengthwise across the ventilator opening, each slat being slanted in such a manner as to overlap the next lower slat and to permit ventilation but exclude rain, snow, light, insects, or other living creatures.

lumens
Unit of measure for total light output. The amount of light falling on a surface of one square foot.

mansard roof	A special type of curb roof in which the pitch of the upper part of each of the four equally sloping sides is small and the pitch of the lower part is great. A series of dormers project from the lower part of the roof.
mantel	The shelf above a fireplace opening. Also used in referring to the decorative trim around a fireplace opening.
manufactured home	A dwelling unit that was designed and built in a factory, and bears a seal certifying that it was built in compliance with the Federal Manufactured Home Construction and Safety Standards Act of 1974. A mobile home built on or after June 15, 1976, may be referred to as a manufactured home.
manufactured room addition	An addition to the home that is factory assembled and transported to the site in a similar fashion as the factory assembled home. The manufactured room addition is designed to be an integral part of the home.
Market value in use	*See* use value.
marquise	A flat roof-like structure that shelters a doorway. It has no floor beneath it and is usually supported wholly from the walls or the building.
masonry	Stone, brick, concrete, hollow-tile, concrete block, or other similar building units or materials. Normally bonded together with mortar to form a wall.
mass appraisal	Appraisal of property on a wholesale scale, such as an entire community, generally for ad valorem tax purposes, using standardized appraisal techniques and procedures to effect uniform equitable valuations within a minimum of detail, within a limited time period, and at limited cost.
mat foundation	Continuous reinforced concrete foundation constructed under the entire building as a unit.
Member Appraisal Institute (M.A.I.)	A professional designation conferred by the American Institute of Real Estate Appraisers upon qualifying real estate appraisers.
mezzanine	A low story formed by placing a floor between what would ordinarily be the floor and ceiling of a high story. The mezzanine floor frequently has a smaller area than other floors and is usually between the first and second stories.
mill construction	A type of construction in which the exterior walls are masonry, load bearing walls in which the structural members are of heavy timbers. It is further characterized by an open design and by other safeguards against fire hazards. Sometimes this is referred to as slow burning construction.
millwork	All of the wooden portions of a building, whether frame construction or otherwise, that are customarily purchased in finished form from a planing mill, such as doors, windows, trim, and balusters.

mineral rights	The right to extract subterranean deposits such as oil, gas, coal, and minerals, as specified in the grant.
minimum rental	That portion of the rent in a percentage lease that is fixed.
mobile home	A transportable, factory assembled home of at least 35 feet in length, intended for year round occupancy, and transportable on its own chassis. A factory assembled home built before June 15, 1976, that uses the transportation undercarriage as an essential construction component of the structure is referred to as a mobile home.
model method	A method of computing the replacement cost of an improvement by applying the cost of a specified model and adjusting the cost to account for specified variations between the subject improvement and the model.
modernization	The corrective action taken to update a property so that it conforms with current standards.
modular home	A transportable, factory assembled home that is built to meet local and state building code requirements for industrialized housing. A panelized or prefabricated home, which consists of site-assembled factory-built components, is an example of a modular home. A modular home is assessed under Schedule A.
molding	A wood strip having an engraved, decorative surface.
monitor roof	A type of gable roof, commonly found on industrial buildings, having a small raised portion along the ridge with openings for the admission of light and air.
mortgage	A legal document by which the owner of a property (mortgagor) pledges the property to a creditor (mortgagee) as security for the payment of a debt.
mudsill	Bottom horizontal member of an exterior wall frame which rests on top of a foundation. Also referred to as a "sill plate" or "sole plate".
mullion	Vertical member forming a division between adjoining windows.
multiple family dwelling	A building designed as a place of residence for more than two families or households.
neighborhood	A geographical area exhibiting a high degree of homogeneity in residential amenities, land use, economic and social trends, and housing characteristics.
neighborhood trend	Three stages in the life cycle of a neighborhood. The stages are the ▪ improving stage characterized by development and growth ▪ static stage characterized by a leveling off of values ▪ declining stage characterized by infestation and decay.

net lease A lease under which the lessee assumes to pay all applicable operating expenses related to the cost of ownership. It is also referred to as "net net", or "net net net lease".

net sales Gross sales less returns and allowances.

net sales area The actual floor area used for merchandising, excluding storage rooms, utility, and equipment rooms.

non-bearing wall A wall supporting no load other than its own weight.

nonconforming use A use which, because of modified or new zoning ordinances, no longer conforms to current use regulations, but which is nevertheless upheld to be legal so long as certain conditions are adhered to.

observed depreciation Loss in value that is discernible through physical observation by comparing the subject property with a comparable property either new or capable of rendering maximum utility.

obsolescence A diminishing of a property's desirability and usefulness brought about by either functional inadequacies or super-adequacies inherent in the property itself, or adverse economic factors external to the property. *See also* depreciation.

one story A building having no finished story above the ground story.

one-half story

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

over-assessed A condition wherein a property is assessed proportionately higher than comparable properties.

overhang A finished portion of a building that extends beyond the foundation line of a one story structure or beyond the exterior walls of the ground story in the case of a multistory structure.

parapet The portion of the vertical wall of a structure that extends above the roofline at the intersection of the wall and roof.

parcel A piece of land with same ownership.

partition wall An interior bearing or nonbearing wall which separates portions of a story.

party wall
A wall held in common ownership between two structures. When calculating the linear feet of perimeter walls for a structure with a party wall, calculate the length of the perimeter wall as follows:

- For a party wall with an unfinished interior surface, apply fifty percent of the length of the party wall to the perimeter calculation.
- For a party wall with a finished interior surface, apply 60% of the length of the party wall to the perimeter calculation.

percentage lease
A type of lease in which the rental is stipulated to be a percentage of the tenant's gross or net sales, whichever is specified.

perimeter-to-area ratio
The perimeter-to-area-ratio is calculated as follows:

Perimeter area ratio = (LF ÷ SF) x 100 = ___ (round to nearest whole number)

Where:
LF = building's total linear footage
SF = building's total square footage

permanent parcel number
An identification number that is assigned to a parcel of land to identify that parcel from any other parcel within a given taxing jurisdiction.

personal property
Property that is not permanently affixed to and a part of the real estate, and further defined by state statute and rule.

pier
One of the following:

- A thick, solid mass of masonry that is fully or partially isolated from a structural standpoint and that is designed to transmit vertical loads to the earth.
- A structure projecting from land into water for use in loading and unloading vessels.

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

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

pipeline company
A company that is engaged in the business of transporting or transmitting any gas or fluid (except water) through pipes.

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

plan
A drawing representing a projection of any of the floors or horizontal cross sections of a building or of the horizontal plane of any other object or area.

platform framing
System of wood frame house construction using wood studs one-story high finished with a platform consisting of the underflooring for the next story.

precast concrete	Reinforced concrete structural members manufactured to specific specifications at one location and transported to the construction site.
pressure relief valve (PRV)	A device mounted on a hot water heater or boiler which is designed to release any high stream pressure in the tank to prevent tank explosions.
primary commercial or industrial land	The primary building or plant site. The following are examples of primary land ▪ land located under buildings ▪ regularly used parking areas ▪ roadways ▪ regularly used yard storage ▪ necessary support land.
property class	A division of like properties generally defined by statute and generally based upon present use.
property inspection	A physical inspection of a property for the purpose of collecting or reviewing property data.
Property Record Card	A document specially designated to record and process specified property data. It may serve as a source document, a processing form, or a permanent property record.
Property Tax Assessment Board Of Appeals	The county board established under IC 6-1.1-28 and charged with the responsibility of reviewing assessments under IC 6-1.1-13 to assure that properties are assessed at a uniform level.
public utility company	A company that is subject to taxation under IC 6-1.1-8.
public utility property	Property devoted to the production of commodities or services for public consumption under the control of government agencies such as the Indiana Utility Regulatory Commission.
purlin	A beam running along the underside of a sloping roof surface and at right angles to the rafters, used to support the common rafters, and usually supported in turn by larger structural members, such as trusses or girders. It usually runs the along the length of a building.
pyramid roof	A hip roof having four sloping triangular sides, usually of equal pitch, meeting together at the peak.
quoin	Corner blocks of masonry, stone, or brick set at the corner of a structure in blocks forming a decorative pattern.
radiant heat	Heating system in which warm or hot surfaces are used to radiate heat into the space to be conditioned.
rafter	A structural member placed, as a rule, in a sloping position and used as the supporting element for the structural material forming the plane of the roof.

railroad company A company that owns or operates a:

- steam or electric railroad
- suburban or interurban railroad
- switching or terminal railroad
- railroad station, track, or bridge
- facility that is part of a railroad system.

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

real estate The physical land and appurtenances affixed to it.

real property Any one of the following:

- land located within this state.
- a building or fixture situated on land located within this state.
- an appurtenance to land located within this state.
- an estate in land located within this state, or an estate, right, or privilege in mines located on the land or minerals, including, but not limited to, oil and gas, located in the land, if the estate, right, or privilege is distinct from the ownership of the surface of the land
- a riverboat on which lawful gaming is authorized and licensed under IC 4-33.

real property mobile home A mobile home that meets one of the following requirements:

- permanently attached to a foundation or
- the owner has surrendered the certificate of title under IC 9-17-6-15.1.

reassessment The revaluation of all properties within a given jurisdiction for the purpose of establishing a new tax base.

reinforced concrete construction Fireproof structural floor and roof components consisting of either formed or precast concrete, supported by reinforced concrete framing.

replacement cost The cost of constructing an improvement which offers the same utility as the subject improvement, using modern construction materials and techniques.

reproduction cost The cost of constructing an exact replica of a subject improvement, using cost schedules designed from a specific time.

reserve for replacements A reserve established to cover renewal and replacements of fixed assets.

residential property Vacant or improved land devoted to, or available for use primarily as, a place to live. Residential property is normally construed to mean a structure where less than three families reside in a single structure.

retaining wall A wall designed primarily to withstand lateral pressures of earth or other filling or backing deposited behind the wall after construction.

ridge A horizontal line along which the upper edges of two roof surfaces meet to form an external angle of more than 180 degrees.

ridge beam or pole The highest horizontal member of a roof receiving the upper ends of the rafters.

ridged roof A roof having one or more ridges.

rise In general, any vertical distance, such as the rise of a roof, which is the distance between the top of an exterior wall and the peak of the roof, or the rise of a stair, which is the distance from tread to tread.

riser The upright member of a stair extending from tread to tread.

riverboat A self-propelled excursion boat located in a county described in IC 4-33-1-1 on which lawful gaming is authorized and licensed under IC 4-33.

roof sheathing or sheeting The wood panels or sheet material fastened to the roof rafters or trusses on which the shingle or other roof covering is laid.

roof slope The angle that a roof's surface makes with the horizontal. Usually expressed as a certain rise in 12 inches of run.

row dwelling Any one of a series of similar single- family, two-family, or multiple-family dwellings having one or more contiguous common or party walls.

saddle A small second roof built behind the back side of a fireplace chimney to divert water around the chimney. Also, the plate at the bottom of some (usually exterior) door opening. Also referred to as a "threshold".

salvage value The price one would be justified in paying for an item of property to be removed from the premises and used elsewhere.

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

saw tooth roof A roof with a series of parallel sloping surfaces interspersed between a series of vertical surfaces that rise from the lower edges of the sloping surfaces and contain windows for the admission of light and air.

secondary commercial or industrial land Land used for purposes that are secondary to the primary use of the land. The following are examples of secondary land:

- parking areas that are not used regularly
- yard storage that is not used regularly.

secondary recovery method Includes, but is not limited to, the stimulation of oil production by means of the injection of water, steam, hydrocarbons, or chemicals, or by means of in situ combustion. If the oil is extracted by use of a secondary recovery method, the total assessed value of the interest in the oil equals one-half the assessed value computed under a formula.

sewage company	A company that is engaged in the business of operating a sewage system or a sewage treatment plant.
sheathing	Rough boarding (usually plywood or wafer board) on the outside of a wall or roof over which the siding or shingles are attached.
shed roof	A roof containing only one sloping plane.
sill	One of the following: ▪ the lower horizontal part or the threshold of a window or door case ▪ the lowest horizontal structural member of a frame building upon which the superstructure is supported.
single pitch roof	Any roof with a single slope other than a lean-to roof.
single purpose building	A building designed for a specific purpose and that cannot be used for another purpose without substantial alterations.
site development cost	The cost incurred in the preparation of land for development.
size	The actual exterior wall dimensions of the structure, rounded to the nearest foot.
sleeper	A structure member laid horizontally on the ground or on a masonry base as a support to a floor or other superstructures.
sleeve(s)	Pipe installed under the concrete driveway or sidewalk, and that will be used later to run sprinkler pipe or low voltage wire.
soffit	The underside of any subordinate member of a structure, such as the underface of a roof overhang or canopy.
soil productivity	The capacity of a soil type to produce crops.
soil stack	A plumbing vent pipe that penetrates the roof.
sole plate	The bottom, horizontal framing member of a wall that's attached to the floor sheeting and vertical wall studs.
sound value estimate	An estimate of the depreciated value of an improvement made directly by comparing it to improvements of comparable condition, desirability, and usefulness without first estimating its replacement cost new.
spandrel beam	A wall beam supporting the wall above as well as the floor.
Special-purpose design	An improvement whose design is such that it limits its use to a narrow range of occupancies. Any building designed in such a way that it cannot easily be converted to another use can be considered a *special-purpose structure*. Although most buildings can be converted to alternative occupancies, conversion of special-purpose structures involves the expenditure of large sums of money and requires design expertise. Examples are steel mills, theaters, auditoriums, and churches.

specifications	A detailed description of the dimensions, materials, quantities, and structural procedures applicable to a projected or completed piece of construction.
standard depth	The lot depth selected by the assessing official as the lot depth norm for a particular area.
steel frame construction	A type of construction in which there is a framework of steel structural members for support of all loads and the resistance of all stresses.
step flashing	The interweaving of flashing with the roofing material and the materials of a vertical wall surface, required any time a vertical wall meets the roofing surface, such as in the case of a dormer, skylight, garage, or chimney.
stick-built room addition	A room addition that is built on site by conventional means. This type of addition is similar to residential type construction.
story	That portion of a building enclosed by a floor, a ceiling, and the exterior walls.
stretcher	A brick or other piece of masonry that is laid lengthwise in a wall.
stringers	Sloping board that supports the treads and risers of a step or stair.
strut	Any structural member that holds two or more other members apart counteracting a pressure that tends to bring them together.
stud	One of a series of small, slender structural members placed vertically and used as the supporting element of an exterior or interior wall.
subfloor	The flooring laid directly on top of the floor joists, but beneath the finish floor.
sublease	A subordinated lease in which the lessee of the original lease is the lessor in the new lease.
tag unit	A single section normally smaller than the original section and manufactured as part of the original mobile home design.
tax bill	An itemized statement showing the amount of taxes owed for certain property and forwardable to the party legally liable for payment.
tax book	*See* assessment roll.
tax district	A geographic area within which property is taxed by the same taxing units at the same total rate. A taxing unit is an entity that has the power to impose ad valorem property taxes.
tax duplicate	*See* assessment roll.
tax exemption	Either total or partial freedom from tax liability.
tax levy	The total revenue which is to be realized by the tax.
tax list	*See* assessment roll.

tax mapping	The creation of accurate representations of property boundary lines at appropriate scales to provide a graphic inventory of parcels for use in accounting, appraising, and assessing. These maps show dimensions and the relative size and location of each tract with respect to other tracts.
tax rate	The rate generally expressed in dollars per hundred which is to be applied against the tax base or assessed value to compute the amount of taxes. The tax rate is derived by dividing the total amount of the tax levy by the total assessed value of the taxing district.
tax roll	*See* assessment roll.
telephone, telegraph, or cable company	A company that is principally engaged in the business of communicating by electrical transmission. The term telephone, telegraph, or cable company does not include a cable television company.
tenancy by the entirety	A state of tenancy in which the husband and wife are considered as a single person, neither one being free to create interest in the estate without the consent of the other and the survivor acquiring the whole interest upon the death of either.
tenancy in common	A state of tenancy involving two or more persons owning undivided possessory interest that have arisen out of separate and distinct conveyances, any one of the tenants being free to create interest in his or her portion of the estate and the heirs or devisees acquiring the interest of any tenant who may die.
tenement	A building, usually of obsolete nature, designed primarily for non-transient residential use and divided into three or more dwelling units having common stairs, halls, and street entrances, and sometimes common bath and toilet rooms.
terra cotta	A hard-baked pottery molded into decorative tiles or bricks and used particularly for facing and trim on buildings.
terrace	One of the following: ▪ an unroofed level area covered with grass or masonry, or both, raised above the surrounding ground level, and having a vertical or sloping front ▪ a multiple-family dwelling in which the dwelling units are separated vertically by means of common or party walls.
tie	Any structural member that binds together two or more members by counteracting a stress that tends to draw them apart.
tip-out	*See* Expando.
topography	A detailed description or representation on a map of the natural and artificial features of an area.

trending	Adjusting the values of a variable for the effects of time. Usually used to refer to adjustments of assessments intended to reflect the effects of inflation and deflation and sometimes also, but not necessarily, the effects of changes in the demand for micro-locational goods and services.
trending factor	A figure representing the increase in cost or selling price over a period of time. Trending accounts for the relative difference in the value of a dollar between two (2) periods.
trim	One of the following: ▪ the wooden portions of a plastered room, such as the doors, windows, wainscoting, and molding, or the corresponding portions of a room in a finish other than plaster ▪ the contrasting elements on the exterior of a building that serve no structural purpose, but are intended to enhance its appearance. ▪ the hardware of a house, such as locks, hinges, or doorknobs.
truss	A structure made up of three or more members, with each member designed to carry basically a tension or a compression force. The entire structure in turn acts as a beam.
underassessed	A property that is assessed proportionately lower than comparable properties.
unfinished interior	The interior walls of a structure that contain no type of finish to the surface. The studding, surface insulation, and exterior sheathing are visible from inside the structure.
uniformity	As applied to assessing, a condition where all properties are assessed by the same standard of value.
unimproved land	Vacant land that does not have a well, septic system, water hook-up, sewage disposal hook-up, landscaping, or walkways and residential driveway.
unit cost or price	The price or cost of one item of a quantity of similar items.
unusable undeveloped commercial and industrial land	Vacant land that is unusable for commercial or industrial development.
usable undeveloped commercial and industrial land	Vacant land that is held for future commercial or industrial development.
use density	The number of buildings in a particular use per unit of area, such as a density of so many apartment units per acre.
use value	The value a specific property has for a specific use.

utility easement	The area of the earth that has electric, gas, or telephone lines. These areas may be owned by the homeowner, but the utility company has the legal right to enter the area as necessary to repair or service the lines.
vacancy	An unrented unit of rental property.
vacant land	A parcel for which there is no improvement value.
valley	A sloping line along which two roof surfaces meet to form an external angle of less than 180 degrees.
valley rafter	A rafter placed in an inclined position to support the edges of two sloping roof surfaces that meet to form an external angle of less than 180 degrees.
veneer	A thin ornamental or protective facing that does not add appreciably to the strength of the body to which it is attached.
vertical costs	Costs included for the structural components that are vertical in nature and are valued according to linear surface footage. These costs include, but are not limited to: studding, wall insulation, wall sheathing, interior finish of exterior walls, brick or wood siding.
wainscot or wainscoting	One of the following: ▪ a wooden facing on the lower portion of a contrasting interior wall. ▪ a facing of marble tile, or the like, on the lower portion of an interior wall.
water distribution company	A company that is engaged in the business of selling or distributing water by pipe, main, canal, or ditch.
water frontage	Land abutting a body of water.
water table	The location of the underground water, and the vertical distance from the surface of the earth to this underground water.
water tap	The connection point where the home water line connects to the main municipal water system.
weighted age	Structures which have had additions built subsequent to the construction of the principal or original structure must have a "weighted" age calculated to use in place of the actual age when using the commercial and industrial depreciation tables. The method of calculating weighted age is one of weighting the actual age of the original structure and each of its additions by the square footage contained in each part of the structure.
wing	A subordinate part of a building extending from the main part, or any one of two or more substantially coordinate parts of a building that extend out from one or more common junctions.
wood frame construction	A type of construction in which there is a framework of wooden structural members for the support of all loads and the resistance of all stresses.

wood joist	construction means nonfire resistant structural floor and roof components consisting of wood subflooring or decking on wood joists, rafters or purlins that are supported by either load bearing walls constructed of timber or steel framing.
wythe	A partition between flues of a chimney.
zoned heating	A heating and cooling system capable of maintaining varying conditions for numerous rooms or zones. Individual zone valves are used to direct the refrigerant or heating product to the various zones.
zoning regulations	Government restrictions on the use of land.

Miscellaneous Information

Oil or Gas Interest

Oil or gas interests includes, but is not limited to, royalties, overriding royalties, mineral rights, or working interest in any oil or gas located on or beneath the surface of land.

An oil or gas interest is subject to assessment and taxation as real property annually by the assessing official. This interest is assessed to the person who owns or operates each oil or gas interest. The total assessed value of interest in oil located on or beneath the surface or of interest in gas located beneath the surface of a particular tract of land equals the product of the following:

- the average daily production of the oil
- three hundred sixty-five
- one-hundred percent of the posted price of oil on the assessment date.

A piece of equipment is an appurtenance to land and assessable as real property annually by the assessing official if it is incidental to and necessary for the production of oil and gas from the land covered by the oil or gas interest. Each of the appurtenances are assessed to the person who owns or operates the working interest in the oil or gas interest. This equipment includes, but is not limited to, the following: wells, pumping units, lines, treaters, separators, tanks, secondary recovery facilities.

The assessing official must apportion the total assessed value of all interests in the oil or gas among the owners of those interests.

Abbreviations

General Abbreviations

Ac – Acre
Acg – Acreage
Act Frt – Actual Frontage
Bk – Book
CI – Corner Influence
Calc Acg – Calculated Acreage
Dist – District
Eff Frt – Effective Frontage
Eff D – Effective Depth
EMF – Economic Misimprovement Factor
Esmt – Easement
Frt – Frontage
HS – Homesite
IF – Influence Factor
Imp – Improvement
Irr – Irregular
LI – Land Improvement
L & B – Land and Buildings
Mp – Map
Par – Parcel
Pg – Page
Prop – Property
Rd – Road
R.O.W. – Right-of-way
Rtg No – Routing Number
St – Street
Swr – Sewer
Till – Tillable
Topo – Topography
Twn – Town
Twp – Township
UD – Undeveloped
UI – Unimproved
Utl – Utility
Vill – Village
Wd Lnd – Woodland
Wtr – Water
XF – Excessive Frontage
XD – Excessive Depth
Zng – Zoning

GENERAL

Ag – Agricultural
Assmt – Assessment
Av – Average
CDU – Condition, Desirability, and Usefulness
Comm – Commercial
Depr – Depreciation
EDP – Electronic Data Processing
Est – Estimate(d)
EX – Exempt
Excl – Excluding
Gr – Grade
G & D – Grade and Design
I & E – Income and Expense
Incl – Including
Ind – Industrial
N/A – Not Applicable
N/C – New Construction
NF – Nothing Furnished
NV – No Value
Obsol – Obsolescence
PIF – Price In Field
PRC – Property Record Card
PU – Public Utility
RC – Replacement Cost
RCLD – Replacement Cost Less Depreciation
RCLND – Replacement Cost Less Normal Depreciation
Res – Residential
RV – Replacement Value
Schd – Schedule
SV – Sound Value
T or Tot – Total
TV – True Value
UF – Utilities Furnished
Utl Val – Utility Value
Val – Value

ARCHITECTURAL

Apt – Apartment
Art – Artificial
Asb – Asbestos
Att – Attached
Bldg – Building
Bsmt – Basement
BT Pav – Black Top Paving
CB – Concrete Block
Clg – Ceiling
Cmt – Cement
Col – Column
Com – Common
Comp – Composition
Conc – Concrete
Const – Construction
Dbl – Double
DH – Double Hung
Dk – Deck
Dkg – Decking
Drs – Doors
DP – Double Pitch
D & M – Dressed and Matched
Dwg – Dwelling
Elec – Electric
Elev – Elevators
Equip – Equipment
Excav – Excavation
Excl – Excluding
Ext – Exterior
Fibr Gls – Fiberglass
Fin – Finish

Fixt	– Fixtures	Pass	– Passenger
Flr	– Floor	Pav	– Paving
Flrg	– Flooring	Pil	– Pilaster
Ftg	– Footing	Plk	– Plank
Fdtn	– Foundation	Plstr	– Plaster
Fr	– Frame	Plstrd	– Plastered
Frt	– Freight	Plbg	– Plumbing
Galv	– Galvanized	Pch	– Porch
GI	– Galvanized Iron	Purl	– Purlin
Gar	– Garage	Rec Rm	– Recreation Room
Gls	– Glass	Rftr	– Rafter
H Col	– H Column	RR	– Railroad
Hd Wd	– Hardwood	Refrig	– Refrigerated
Htr	– Heater	Rein	– Reinforced
Htg	– Heating	Rein Conc	– Reinforced Concrete
HT	– Hollow Tile	Ret Wl	– Retaining Wall
Horiz	– Horizontal	Rf	– Roof
HP	– Horse Power	Rfg	– Roofing
Hse	– House	Rm	– Room
I Bm	– I Beam	Shtg	– Sheathing
Incl	– Including	Sdg	– Siding
I.D.	– Inside Diameter or Identification	SP	– Single Pitch
Int	– Interior	SS	– Slop Sinks
Int Fin	– Interior Finish	Sprink	– Sprinkler
I-Com	– Intercom System	Sq	– Square
Jst	– Joist	Strs	– Stairs
K & T	– Knob and Tube	Std	– Standard
Lam	– Laminated	Stdg	– Standing
Ldg	– Landing	Stm	– Steam
L & P	– Lath and Plaster	Stl	– Steel
Lav	– Lavatory	Stl Pl	– Steel Plate
L & O	– Lead and Oil	Stge	– Storage
Lt	– Light	Sup	– Supports
Ltg	– Lighting	Sys	– System
Lts	– Lights	T & G	– Tar and Gravel
Linol	– Linoleum		Tongue and Groove
Mach	– Machine	Terr	– Terrace
Mas	– Masonry	Tbr	– Timber
Mech	– Mechanical	Toil	– Toilet
MF	– Mechanical Features	TR	– Toilet Room
Met	– Metal	Unfin	– Unfinished
Mezz	– Mezzanine	Urin	– Urinal
Misc	– Miscellaneous	Ven	– Veneer
Mono	– Monolithic	Vent	– Ventilator
Obsol	– Obsolete, Obsolescence	Vit	– Vitrified
Ofc	– Office	VT	– Vitrified Tile
o.c.	– On Center	Wsct	– Wainscot
1 E	– One End	Whse	– Warehouse
1 S	– One Side	w c	– Water Closet
OF	– Other Features	WP	– White Pine
OD	– Outside Diameter	WF	– Wide Flange
OH	– Overhead or Overhang	Wind	– Window
Pnt	– Paint	Wir	– Wiring
Par	– Parapet	Wd	– Wood
Pt	– Part	WB Fp	– Woodburning Fireplace
Ptn	– Partition	Yd	– Yard
PW	– Party Wall	YP	– Yellow Pine

Property Record Card Abbreviations

Number of stories in a dwelling

1s	—one (1) story.
1-1/2s	—one and one-half (1 1/2) story.
2s	—two (2) story.

Types of construction materials

Art br	—artificial brick.
Art stn	—artificial stone.
Br	—brick.
CB	—concrete block.
Conc	—concrete.
Enal st	—enamel steel.
Fr	—frame.
Gl	—glass.
Stco	—stucco.
Stn	—stone.
Tile	—tile.

Miscellaneous base area components

A	—attic.
B	—basement.
Bay	—bay or wall projection that extends beyond the normal line of the dwelling.
C	—crawl space.
Oh	—overhang or an upper floor area that extends beyond the area below it.

Garage or carport

Bsmt G	—basement garage.
CP	—carport.
G	—garage.
IG	—integral garage.

Car capacity of a garage

1c	—one (1) car capacity.
1+c	—one and one-half (1 1/2) car capacity.
2c	—two (2) car capacity.
2+c	—two and one-half (2 1/2) car capacity.
3c	—three (3) car capacity.

Exterior features

Balc	—balcony.
BrP	—brick patio.
Cnpy	—canopy.
Conc Dk	—concrete deck.
Conc P	—concrete patio.
Conc T	—concrete terrace.
EFP	—enclosed frame porch.
EMP	—enclosed masonry porch.
FsP	—flagstone patio.
MStp	—masonry stoop.
MTer	—masonry terrace.
OFP	—open frame porch.
OMP	—open masonry porch.
Port	—portico.
WdDk	—wood deck.
WdP	—wood patio.

Miscellaneous features:

CS	—car shed.
PW	—party wall.
UF	—unfinished interior.

Miscellaneous terms:

LRP	—locally assessed real property.
LPP	—locally assessed personal property.
DIST	—distributable property.

Commercial and Industrial Features Abbreviations

Abbr.	Feature
A	Asphalt floor
AL	Aluminum
AS	Automatic sprinkler
AT	Attended
BW	Barbed wire
CW	Clerestory walls
C	Concrete floor
CA	Concrete apron
CC	Conical cover
CF	Concrete foundation
CJ	Chime joists
CN	Canopy
CT	Ceramic tile
CY	Cypress wood
D	Dirt floor
DH	Decorative housing
DL	Diving L
DR	Double deck roof
DSD	Double sliding door
DW	Double wall
E	Electric lights
EF	Express floor
ES	Electric lights and soffits
EX	Excavation
F80	80 pound factor
F100	100 pound factor
F125	125 pound factor
F150	150 pound factor
FB	Football field
FC	Flat cover
FE	Feeder
FX	Fixtures
GB	Guy band

Abbr.	Feature
IR	Irregular shape
IT	Institutional greenhouse typical
MC	Manual controls
MD	Manual doors
MDS	Manual door stops
MS	Manual sprinkler
MU	Metal units
PR	Pontoon floating roof
PDS	Power door stops
QF	Quality factor
R	Roof
RF	Roof flashing
RMS	Rear manual door stops
RMS1	Rear manual door stops-first stop
FL	Refractory lining
RPS	Rear power door stops
RPS1	Rear power doors–first stop
SF	Sand finish
SG	Service gates
S1	Site preparation
SL	Steel ladder
SSD	Single sliding door
ST	Stops
STO	Switch and turnout
SW	Single wall
T	Steel ties
TR	Top rail
TRS	Trestle-single track
TRD	Trestle-double track
TW	Triple wall
TTW	Thru-the-wall install
UAB	Utility building–average brick
UACB	Utility building–average concrete block

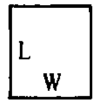
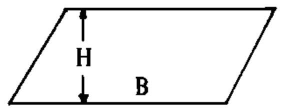
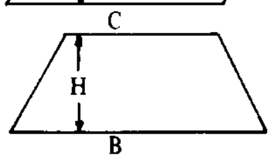
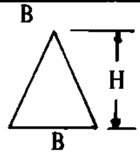
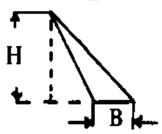
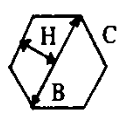
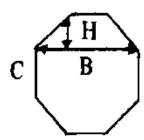
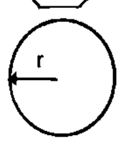
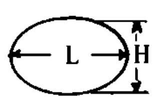
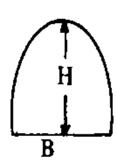
Abbr.	Feature
GR	Gradient
GS	Gravel surfacing
GW	Guy wire
H	Heating
HD	Heavy duty or industrial
HS	High stress factor
IE	Institutional greenhouse elaborate

Abbr.	Feature
UC	Utility building–cheap shed type
UGB	Utility building–good brick
UL	Utility building–low cost frame
UT	Umbrella top
W	Walls
WL	Wood ladder

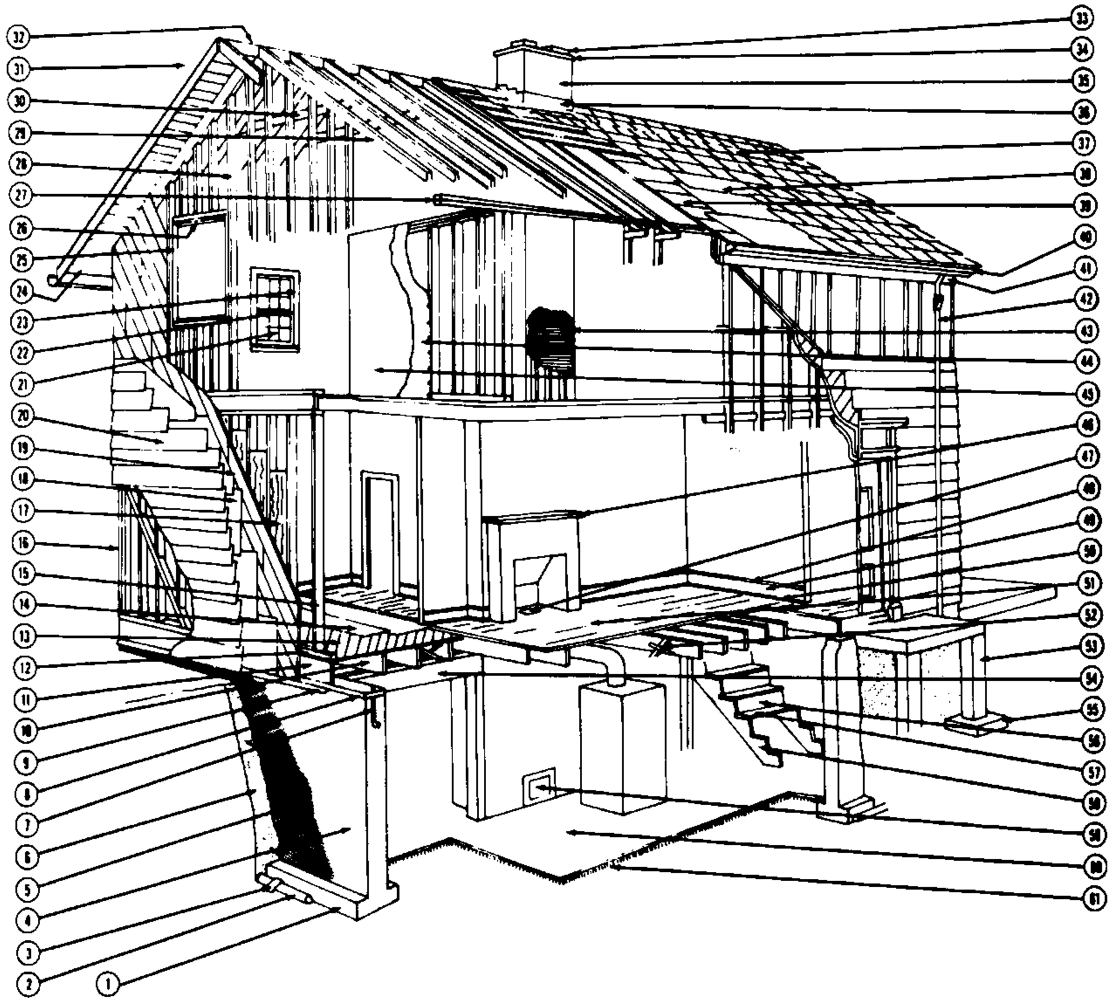
Illustrations

The following illustrations are included to familiarize the assessor with construction characteristics and formulas for calculating the square foot area:

Area Calculations

SQUARE		AREA = L x W
RECTANGLE		AREA = L x W
PARALLELOGRAM		AREA = H x B
TRAPEZOID		AREA = H x 1/2 (B+C)
TRIANGLE		AREA = 1/2 H x B
TRIANGLE		AREA = 1/2 H x B
REGULAR POLYGONS	GENERAL	AREA = 1/2 SUM OF SIDES x INSIDE RADIUS
HEXAGON		AREA = H x (B+C)
OCTAGON		AREA = H x (B+C) + C x B
CIRCLE		AREA = π (3.1416) x r x r
ELLIPSE		AREA = L x H x 0.7854
PARABOLA		AREA - 2/3 x H x B

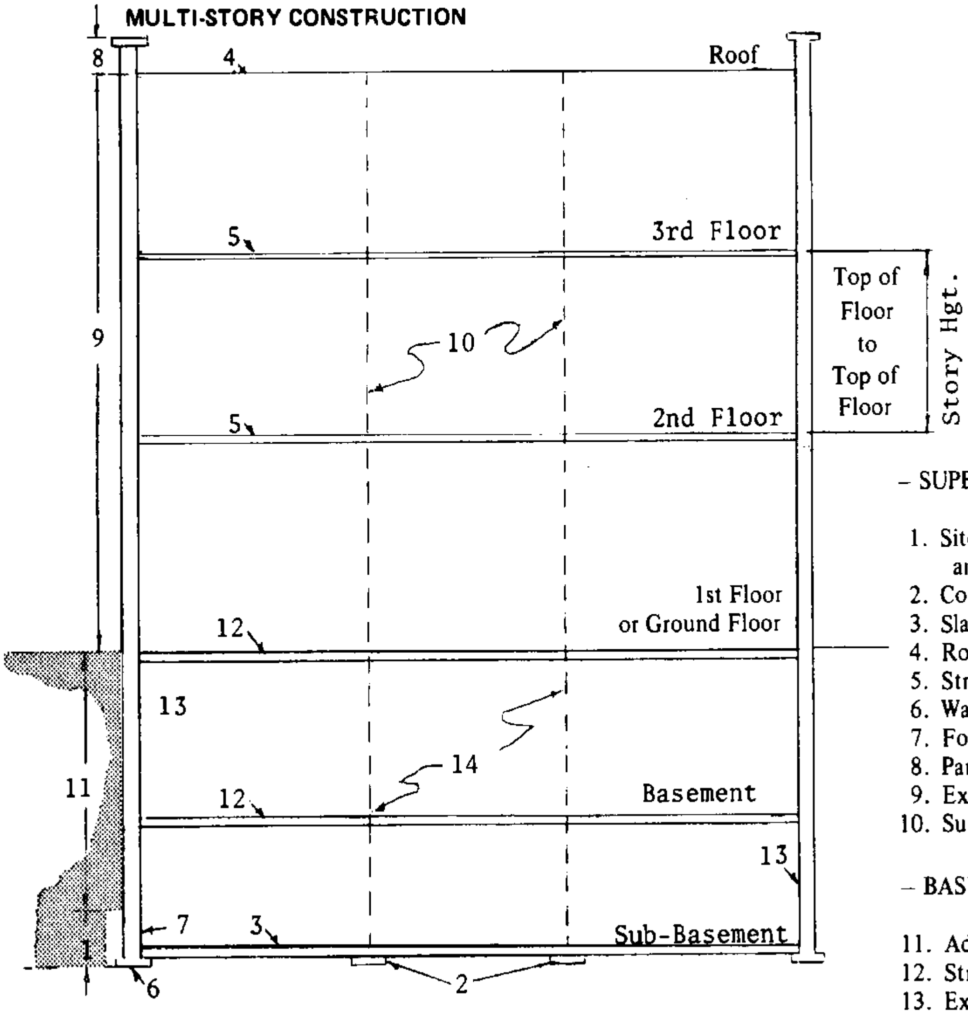
Architecture Nomenclature



1. Footing
2. Foundation drain tile
3. Felt joint cover
4. Foundation wall
5. Dampproofing or weatherproofing
6. Backfill
7. Anchor bolt
8. Sill
9. Termite shield
10. Floor joist
11. Band or box sill
12. Plate
13. Subflooring
14. Building paper
15. Wall stud
16. Double corner stud
17. Insulation
18. Building paper
19. Wall sheathing
20. Siding
21. Mullion
22. Muntin
23. Window sash
24. Eave (roof projection)
25. Window jamb trim
26. Double window header
27. Double plate
28. Stud
29. Rafters
30. Collar beam
31. Gable end of roof
32. Ridge board
33. Chimney pots
34. Chimney cap
35. Chimney
36. Chimney flashing
37. Roofing shingles
38. Roofing felts
39. Roof boards
40. Eave trough or gutter
41. Frieze board
42. Downspout
43. Laths
44. Wallboard
45. Plaster finish
46. Mantel
47. Ash dump
48. Base top moulding
49. Baseboard
50. Shoe moulding
51. Finish flooring
52. Bridging
53. Pier
54. Girder
55. Footing
56. Riser
57. Tread
58. Stringer
59. Cleanout door
60. Concrete basement floor
61. Cinder fill

Building Cross-Sections

MULTI-STORY CONSTRUCTION



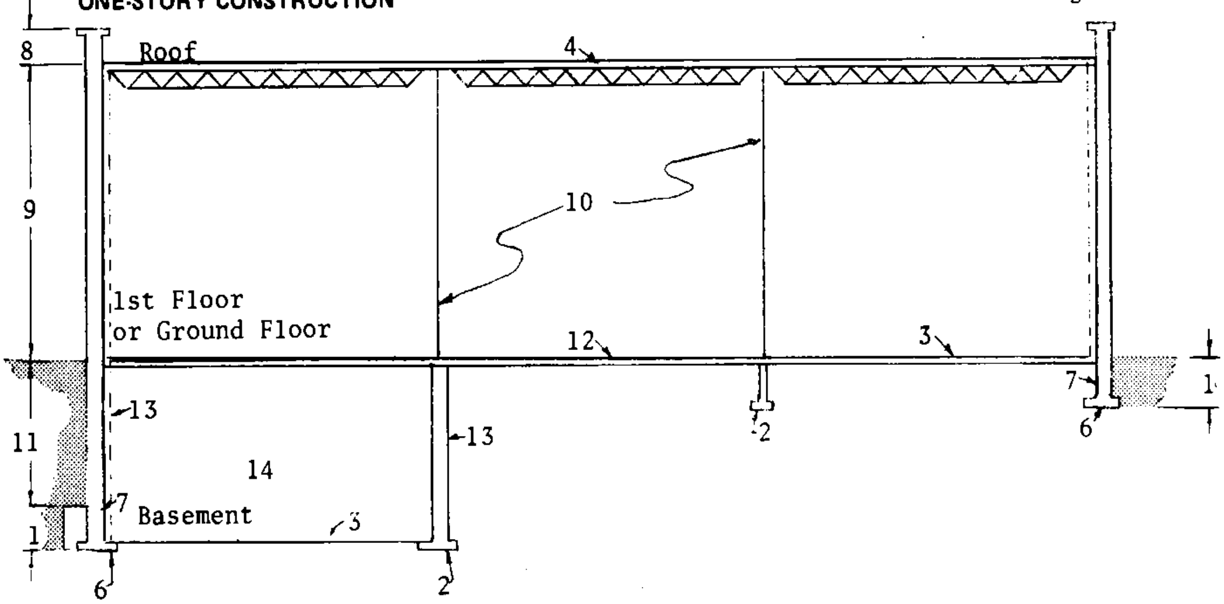
– SUPERSTRUCTURE INCLUSIONS

1. Site preparation, column footing and foundation wall excavation
2. Column footings
3. Slab on ground
4. Roof
5. Structural floors
6. Wall footings
7. Foundation walls
8. Parapet wall
9. Exterior superstructure walls
10. Superstructure framing

– BASEMENT INCLUSIONS

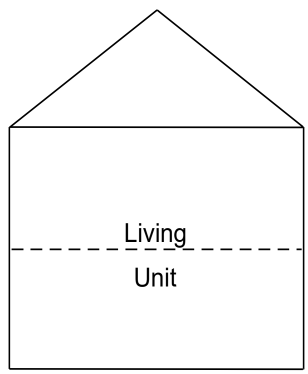
11. Additional excavation for basemen
12. Structural floors
13. Exterior basement walls
14. Basement framing

ONE-STORY CONSTRUCTION

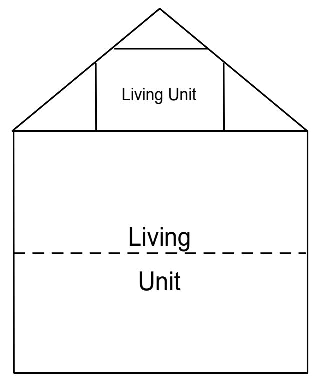


Occupancy Types

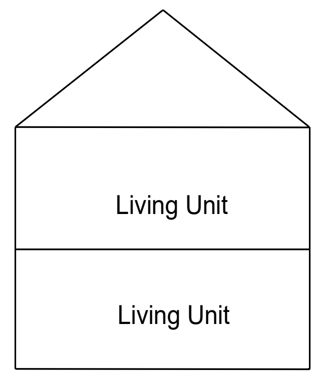
Single Family



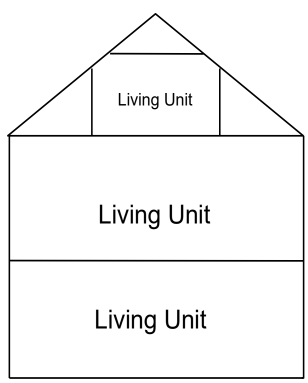
Single Family Conversion
(2 families)



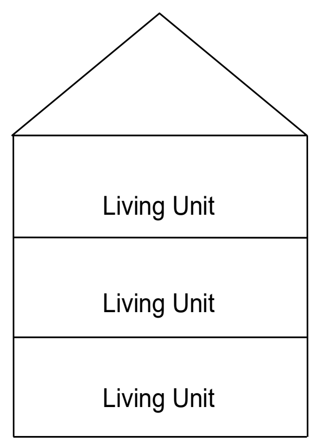
Duplex



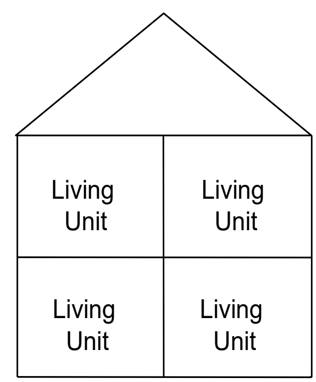
Duplex Conversion
(3 families)



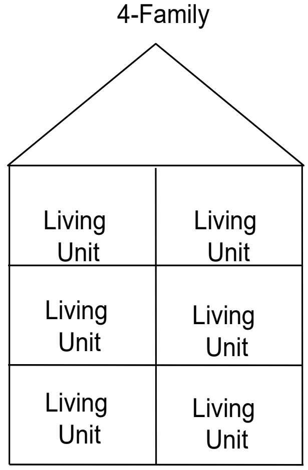
Triplex



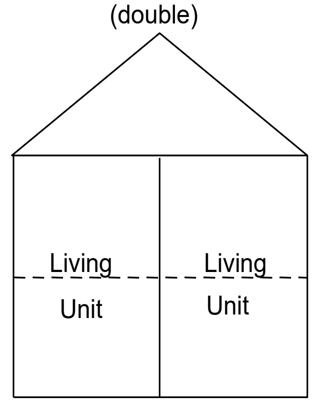
4-Family



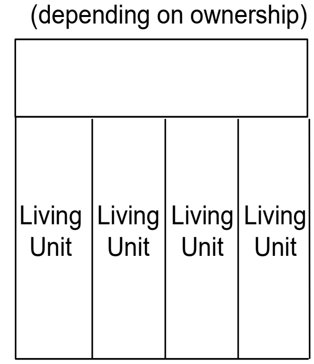
4-Family



2-Family Row Type
(double)

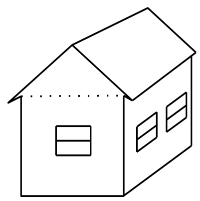


Multi-Family Row Type
or apartment
(depending on ownership)

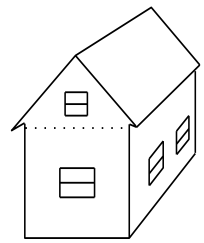


Story Height

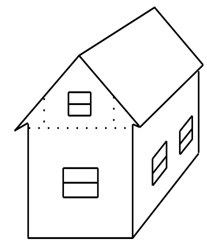
1 Story



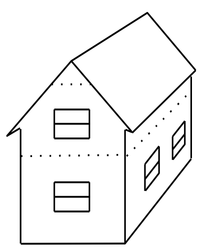
1 Story and Attic



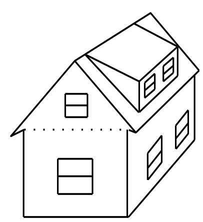
1 Story and Finished Attic



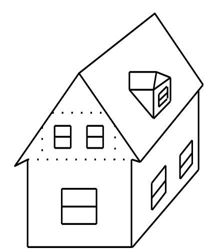
1 ½ Story



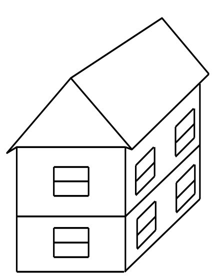
1½ Story



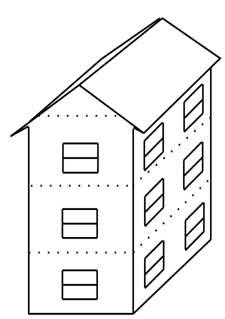
1 ½ Story



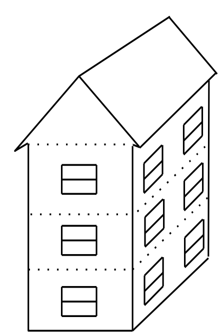
2 Story



2½ Story



3 Story



Modern Height Designs

Modern Story Height Designs

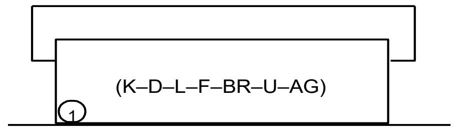
Parenthetical symbols indicate the most typcial uses at that particular level.

K–Kitchen	U–Utility Area
D–Dining Area	R–Recreation Room
L–Living Area	AG–Attached Garage
F–Family Room	IG–Integral Garage
BR–Bedrooms	BG–Basement Garage

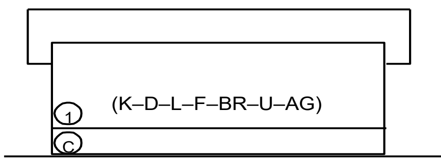
Circled symbols indicate pricing levels:

B–Basement	1–First Floor
C–Crawl Space	2–Upper Floor

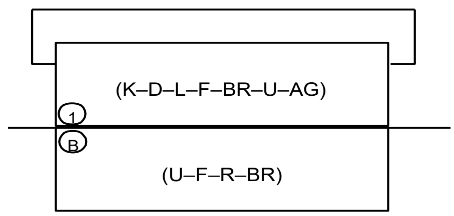
Ranch (on slab)



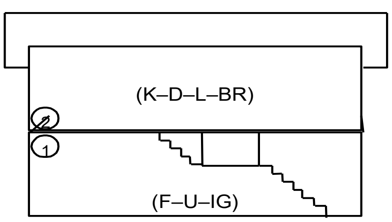
Ranch (over crawl space)



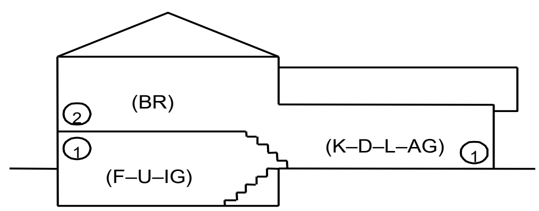
Ranch with Basement



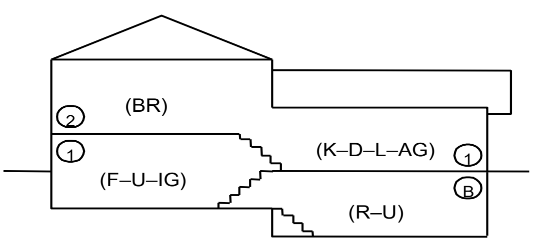
Bi–Level (raised ranch)



Tri–Level

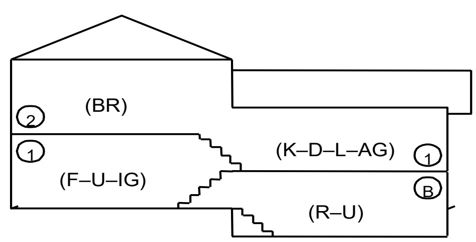


Tri–Level with Basement *



*totally below grade

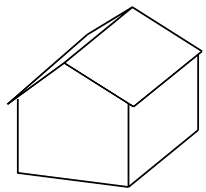
Tri–Level with Basement *



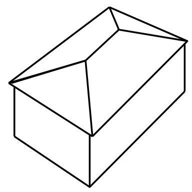
*partially below grade

Roof Types

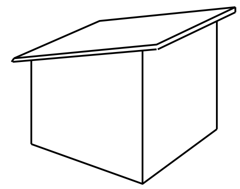
Gable



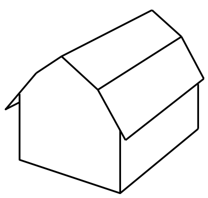
Hip



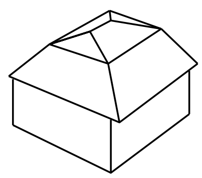
Shed



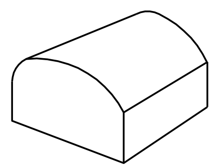
Gambrel



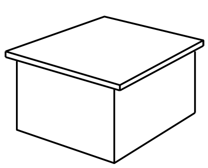
Mansard



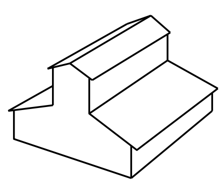
Arched



Flat



Monitor



Sawtooth