

2019 Schedules, Standards and Rules

For Rowan County

Introduction

The following manual has been prepared by the Rowan County Assessor's Office to be used in the appraisal of real property as required by the Machinery Act of North Carolina for the 2019 Countywide Reappraisal, see G.S. 105-286¹ and 105-283² and 105-317³.

The Machinery Act of North Carolina (G.S. 105-317(b)(1)) requires that a schedule of standards and rules be developed and used in the appraisal of property. This document is commonly referred to as the Schedule of Values. The intent or purpose of this document, even though there are no individual property values listed here, is actually to present the methods and procedures that form the basis for the valuation of all land, buildings and other improvements considered to be real property in Rowan County. Effective January 1, 2019, property assessments will be based on the methods outlined here in the 2019 Schedules, Standards and Rules for the next four years until the countywide reappraisal effective for 2023.

North Carolina G.S. 105-286 requires each county in North Carolina to conduct a countywide reappraisal of all real property at least once every eight years, although a county may chose to revalue on a less than eight-year cycle. In accordance with North Carolina General Statutes 105-286, the Rowan County Board of Commissioners approved a reappraisal schedule every four years at its regular scheduled meeting on August 7, 1995⁴ which is earlier than required in G.S. 105-286 and to continue a four-year cycle until subsequent action to amend or alter the schedule.

North Carolina G.S. 105-283 talks about 'uniform appraisal standards.' If the purpose of a revaluation is to re-establish the fair market value of each property, and by doing so, re-establish the fair tax burden on each property, then that is best accomplished when the proper application of the schedules, standards and rules (as outlined in this document) are used resulting in the property assessments that reflect the fair market value of each of Rowan County's approximate eighty thousand parcels.

¹ NCGS 105-286 of the Machinery Act of North Carolina, 2017 Edition, pp. 124-128

² NCGS 105-283 of the Machinery Act of North Carolina, 2017 Edition, p. 114-119

³ NCGS 105-317 of the Machinery Act of North Carolina, 2017 Edition, pp. 191-197

⁴ See Minutes from the Rowan County Board of Commissioners dated 8-7-1995.

Mass Appraisal Overview

A successful reappraisal requires extensive planning and organization and an experienced, dedicated staff. Staff appraisers began work in the early summer of 2017 by visiting the properties throughout the county. Contract workers⁵, experienced in the field of real property appraising, have been employed to assist with the revaluation and the appeals process on an as-needed basis. Along with the field review, many of the properties that sold within an eighteen (18) to twenty-four (24) month period prior to January 1, 2019 and those that were used in the sales study and cost analysis have been reviewed.

Our Land Records Department staff is an extremely important part of the work in the tax office as they are responsible for the accurate and timely processing of all deeded property changes. We work with them to produce aerial maps that allow us to view our data so we can make better appraisal decisions. Pictometry⁶ is the name of a patented aerial image capture process that produces imagery showing the top, front and sides of buildings on the ground and is another tool that provides our appraisal staff with the ability to verify certain type data with regard to structures.

It is important to be as accurate as possible in every stage of a revaluation as the processes build on each other. A common thought, due to the volume of properties and data involved in a mass appraisal, is that ‘the computer does it.’ Computers are an *indispensable* tool in our work, but experienced, competent human minds and bodies are far more indispensable. The work that we do as appraisers involves a tremendous amount of experience and judgment – two traits that are not yet ‘programmable.’ NCGS 105-394 lists conditions and provides language to address the possible irregularities in completing a mass appraisal of real property.

While we believe that we have a high quality work product, no mass appraisal project is perfect. After the mailing of revaluation notices, we will move into the ‘informal’ appeals process. One purpose of that process is to identify and correct errors of any nature or magnitude that are inherently unavoidable in any revaluation project. We are absolutely dedicated to ensuring that the data and resulting value conclusion for each property is as accurate and equitable as possible.

⁵ NCGS 105-299 of the North Carolina Machinery Act

⁶ www.pictometry.com / www.eagleview.com

Real Property Assessment

An *ad valorem* tax, more commonly called the property tax, is a tax based on the value of a property. The value of a property is its fair market value. The sole purpose of real property assessment is to arrive at market value of all real property as of the date of the revaluation effective date so that the tax will be fair and equitable.

Market value (true value in money) as defined by the Machinery Act of North Carolina in G.S. 105-283⁷ is defined as:

“When used in Subchapter, the words ‘true value’ shall be interpreted as meaning market value, that is, the price estimated in terms of money at which the property would change hands between a willing and financially able buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of all the uses to which the property is adapted and for which it is capable of being used.”

The fair market value of property is an opinion of its value, that opinion being based on methodical market analysis. Fair market value is the most *probable* price a buyer would pay a seller for property available for sale on the market. It is *not* the price that you would most likely sell a property to someone in your family, or the sale price of a property you *had* to sell because of various reasons. Fair market value is not necessarily the *exact* sale price of a particular property.

Market value is determined through the application of the three established and accepted appraisal methods: the sales comparison approach; the cost approach; and the income approach. These three basic approaches to value⁸ which may be used to arrive at a fair market value are defined as follows:

- Cost Approach – To the estimated value of the land, preferably derived from sales data, is added the current depreciated reproduction or replacement cost of the improvement.
- Market Approach – Provides for the comparing of similar properties sold in the recent past with the property under appraisal. The four basic steps include: discovering and analyzing the data; selecting appropriate units of comparison; making reasonable adjustments based on the market; and applying the data to the subject of appraisal.
- Income Approach - A restatement of the definition of market value in terms of the income approach provides that value is the present worth of future benefits arising from the ownership of a property.

⁷ NCGS 105-283 of the Machinery Act of North Carolina, 2017 Edition p. 114

⁸ International Association of Assessing Officers, Property Assessment Valuation, pp. 68-70

The use of any of the three approaches requires careful consideration to be given to:

1. The relevancy of the approach applied to the property under consideration.
2. The inherent strengths and weaknesses of the approach used.
3. The amount and reliability of the data collected.
4. The affect of the local market on the data collected.

Our real property appraisers will study the local market and determine the application of these procedures which best results in property assessments that reflect their fair market value.

Generally, the market value of residential properties is based on sales of comparable properties (sales comparison approach) and the cost of construction less depreciation plus the estimated value of the land (cost approach). The market value of commercial properties may be established through the analysis of the income and expenses of those income-producing properties, in addition to the sales and cost approaches to new properties.

The significant difference in the appraisal procedures of a private appraiser and real property appraisers is the tax office represents the fundamental methods and theories of mass appraisal. Mass appraisal involves valuing thousands of properties in a cost-effective, timely, and accurate manner. It also involves development of procedures that will ensure that the value of each property is equitable with that of other like properties. Comparable property uses (giving consideration to zoning) and property types must be determined in order to apply the established rules and procedures to each like property with adjustments for significant individual property differences.

A careful investigation of location, construction, labor costs and materials has been made and the manual has been tested against both new and existing constructions to prove its accuracy.

Rowan County's 2019 Schedules, Standards and Rules has been prepared to conform to professional appraisal principles and practices and to illustrate to property owners the methods and standards by which their property will be valued.

The 2019 Schedules, Standards and Rules are designed so that all real property in Rowan County, as far as practicable, can be appraised at its true market value as of January 1, 2019 in a uniform manner. Furthermore, it will be as a guide for the appraisers in estimating equitable and uniform values for all property types in those years prior to the next scheduled 2023 reappraisal.

Those professional appraisal principles and practices are outlined by The Appraisal Foundation, North Carolina Real Estate Commission and International Association of Assessing Officers, to name a few.

- A. The Appraisal Foundation, Uniform Standards of Professional Appraisal Practice (USPAP) 2018-2019 Edition⁹.

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- B. North Carolina Real Estate Commission¹⁰ – The Residential Square Footage Guidelines is available on the Real Estate Commission’s website for the general public’s use and inspection (see website below).

- C. With reference to the principles and practices of the International Association of Assessing Officers, we refer to the Standard on Mass Appraisal of Real Property (see Addendum) – website: www.iaao.org Also, Property Assessment Valuation, Third Edition, Chapter 15 Mass Appraisal is quoted below:

“This chapter outlines the principles of mass appraisal and shows how mass appraisal is incorporated in the assessment process. The most common use of mass appraisal is the equitable and efficient appraisal of all property in a jurisdiction for ad valorem tax purposes – indeed, mass appraisal evolved out of the need for uniformity and consistency in assessment. Effective mass appraisal requires an adequate budget, staff, and resources.”

⁹ The Appraisal Foundation, USPAP 2018-2019 Ed., Sds 5&6, Mass Appraisal, Development & Reporting, pp34-43

¹⁰ North Carolina Real Estate Commission, Residential Square Footage Guidelines, www.ncrec.gov

Application of Standards in Non-revaluation Years

The proposed schedules, standards and rules are subject to adjustment prior to their final approval; however, after their approval, specific property values generated using guidelines from the adopted schedules, standards and rules are subject to change only under G.S. 105-287¹¹. In clarifying G.S. 105-287 - Changing Appraised Value of Real Property in Years in Which General Reappraisal is Not Made additions, changes, and/or deletions may be made to the values to reflect (1) new structural types not in existence at the time of approval; (2) new neighborhoods that are created as the result of subdivision; and (3) any other factor that would reflect a need to comply with G.S. 105-287 for Rowan County as of January 1, 2019.

Countywide Reappraisal Schedule

In accordance with North Carolina General Statutes 105-286, the Rowan County Board of Commissioners approved a reappraisal schedule every four years at its regular scheduled meeting on August 7, 1995¹² (see Addendum) which is earlier than required in G.S. 105-286 and to continue a four-year cycle until subsequent action to amend or alter the schedule.

Principles and Essentials of Uniform Property Valuation and Assessment

In order to ensure that all property within this county is valued in a uniform and fair manner, the guidelines presented within this manual will need to be followed as closely as possible. There is no "all encompassing" set of rules and regulations that can be developed so as to ensure a totally accurate estimate of value in each and every appraisal. The appraiser's experience and expertise in applying the guidelines within this manual as well as personal judgment will add to the overall quality and accuracy of the work.

Replacement cost of dwellings and outbuildings is basically the starting point of most appraisals. General construction specifications can vary widely with quality of materials and workmanship. The guidelines in this manual are designed to enable the appraiser to distinguish between variations in replacement costs. The majority of homes fall within the area of average workmanship and materials that are addressed by the tables herein. Those buildings that fall outside of the tables provided herein shall be appraised based on the appraiser's knowledge, professional judgment and experience together with generally accepted principles of appraising. Land appraisals are typically the most difficult of all appraisal operations. The method of land

¹¹ NCGS 105-287 of the Machinery Act of North Carolina, 2017 Edition, pp128-134.

¹² See Minutes from the Rowan County Board of Commissioners dated 8-7-1995.

appraisal contained in this manual is based on market sales data and the comparison process. Included in the manual are depth factor charts, residential pricing charts, and rural land pricing charts. These guidelines, when applied properly, will ensure a fair and uniform valuation of property.

Ultimately, all valuation approaches rely upon the availability, collection, verification and analysis of valid, qualified sales (or data) in order to properly value any real property. When little or no valid sales transactions or data is available, the principle of substitution can be considered for use in arriving at value for most types of properties.

The schedule of values manual is intended to cover and address all classes and types of properties. Unique or special classes of properties may require special methods of appraising and have unique characteristics not found in the schedule of values manual. Staff appraisers may need to refer to Marshall & Swift/Corelogic or some other professional guide for assistance when assigning value for ad valorem purposes.

IMPROVED RESIDENTIAL SPECIFICATIONS

Cost Analysis for an Average Residential Dwelling

An average built residential dwelling begins with a base building value. The change(s) that are available with the conversion to new CAMA software for the 2019 countywide reappraisal allows for the use of various models in the pricing of residential structures as follows:

Model 1 – Single Family	Base Building Value @ \$89,000
Model 2 – Manufactured Home	Base Building Value @ \$55,000
Model 3 – Track Home	Base Building Value @ 127,000

Model 1 includes a base heated living area of 1,250 square feet.

Model 2 includes a base heated living area of 1,566 (27x58) rounded to 1,600 square feet.

Model 3 includes a base heated living area of 1,800 square feet.

Also included in the base value for all three Models are: two full baths (8 plumbing fixtures: bathroom commode, shower stall/bathtub, bathroom sink, kitchen sink and water heater), average grade floor covering, central heat/air, perimeter or slab foundation, no fireplace, composition roof cover, exterior walls are frame and vinyl siding, no car storage and is assigned a grade classification of a straight 'C.' Residential dwellings with heated living area or quality of construction that is greater than or less than that Model's stated grade or square foot will be adjusted accordingly. Residential dwellings that have features that contribute to value and are greater than or less than those described herein will be adjusted for the difference(s). Attachments to the dwelling, i.e. porch, deck, garage or carport, etc. are added to this base value. This process creates a 'replacement cost new' (RCN) that is then graded and depreciated based on the appraiser's subjective opinion of the quality of materials, workmanship and cost/design resulting in a 'replacement cost new less depreciation (RCNLD) value. Finally, the land value is added for an estimated total market value for ad valorem purposes.

- Additional adjustments (functional or external obsolescence) for matters such as use/design, remodeling, external obsolescence, etc. that are based on and supported by documentation and may affect the subject property may be considered by the appraisal staff to adjust the depreciated value.
- Additional exterior wall codes ¹³ for residential dwellings adjust the base rate as follows:

○ Asbestos	Base rate per square foot:	.90 remaining good
○ Concrete Block	Base rate per square foot:	.90 remaining good
○ Vinyl/Alum	Base rate per square foot:	Base
○ Wood Siding	Base rate per square foot:	Base
○ Wood Panel/Log	Base rate per square foot:	1.2 times base rate
○ Brick Veneer	Base rate per square foot:	1.1 times base rate
○ Hardiboard	Base rate per square foot:	1.1 times base rate
○ Stone	Base rate per square foot:	1.2 times base rate
○ Stucco	Base rate per square foot:	1.2 times base rate

¹³ Marshall Swift Residential Cost Handbook, September 2018, p B-11

I. Types of Residences

Condominiums

The condominium form of fee simple ownership has gained in popularity in recent years. One of the reasons for this increased popularity is associated with maintenance which is provided by the Home Owner's Association. This means that all exterior maintenance is performed for each owner, such as lawn care, landscaping, painting, and general up-keep with the single-family residences.

The purchase of a condominium unit is in fee simple ownership of a single unit in a multi-unit structure. Included with the purchase of each unit is an interest in all common elements included in the condominium development. These common elements generally consist of land beneath the building, support walls, stairways, elevators, and roof. In some developments, these common elements include swimming pools, club houses, tennis courts, natural areas used for walking, running, hiking, and golf courses.

Site-Built

Site-built residences may incorporate the use of some prefabricated building components, but for the most part, are constructed at a permanent building site.

The base area (or heated living area) of a single-family residence is calculated from exterior measurements of the dwelling.

A. Story Heights

- 1. One-Story** – The one-story dwelling has all regular living space on one level. These structures may have basement and/or attic area depending on location and preference of prospective owners.
- 2. One and One-half Story** – The one and one-half story dwelling is essentially one-story with a steeper roof that allows for expansion of the attic. Dormers are usually added to provide additional interior wall height, light, and ventilation. This has two distinct advantages: economy in cost per unit of habitable living space, and built-in expansibility.
- 3. Split-Level** - The split-level dwelling is a variation of the one-story dwelling with basement area. It was designed for a sloping or hilly lot and takes advantage of what might otherwise be a troublesome difference in elevation. The split-level makes efficient use of space. The general arrangement of the structure separates sleeping, living, and recreation areas on different levels.
- 4. Bi-Level** - The bi-level with the split foyer dwelling is a popular variation of the split-level and is generally constructed with full basement area.

B. First Floor, Upper Floor and Basement Calculations

1. Square Footage - The system calculates square footage for a structure based on its exterior measurements provided by appraiser at time of measure and listing and/or from the Rowan County building permit data. The value for the area is determined by taking the calculated square footage of the floor multiplied by the size factor times the base rate times the following factor:

First Floor	1.000
Upper Floor65

2. Attic area - as used in this schedule, is useable space (such as storage) between the roof structure and ceiling area. It can consist of soft wood subflooring and permanent stairway, however, it does not meet the industry standard for ceiling height to be included in the structure's total square footage of 'heated living area.' According to the North Carolina State Residential Building Code, Section R502.3.1 of the 2012 Edition¹⁴ in certain cases where the upper floor has permanent stairs and sufficient ceiling height, the ceiling joists for the floor below has to be designed as 'floor joists' to carry the load in order to be classified as upper floor otherwise it will be considered attic area.

3. Basement costs - as used in this schedule, assume an average amount of exterior basement wall exposed for the general topography for this area. Adequate exterior basement entries, where applicable, have also been considered. *Unfinished basement area* consists of finished concrete floor, exposed masonry interior walls, with little or no interior partitioning. *Finished basement area* includes additional consideration for floor covering, drywall or equal ceiling, drywall and/or paneled interior walls, electrical outlets, and a limited amount of heating and lighting. Total square footage in the basement is shown as a percentage of the first floor in the 'unfinished' field while the 'finished' basement square footage is expressed as a percentage of the 'unfinished' area. Each line is then multiplied by its respective rate.

C. Heating/Air Conditioning, Plumbing & Fireplaces, Exterior Wall & Foundation

1. Heating and air conditioning rates are calculated using total heated living area.
2. Eight plumbing fixtures (two full baths, kitchen sink and water heater) are considered standard (base) and are included in base pricing. Shower-over-tub is included in standard (base) price.
3. All fireplace features are considered an add-on to the base price.
4. Exterior walls that are part of the base pricing include vinyl/aluminum and frame.
5. Foundations included in the base pricing are perimeter or slab.

¹⁴North Carolina State Residential Building Code, 2012 Edition, p.89

Residential Attic Tables

	Code	1st Flr Rate	Up Flr Rate	Model	Description
	AF2	45	45	1	FIN ATTIC - SIZE 200
	AF3	44	44	1	FIN ATTIC - SIZE 300
	AF4	43	43	1	FIN ATTIC - SIZE 400
	AF5	42	42	1	FIN ATTIC - SIZE 500
	AF6	41	41	1	FIN ATTIC - SIZE 600
	AF7	40	40	1	FIN ATTIC - SIZE 700
	AF8	39	39	1	FIN ATTIC - SIZE 800
	AF9	38	38	1	FIN ATTIC - SIZE 900
	AFA	37	37	1	FIN ATTIC - SIZE 1000
	AFB	36	36	1	FIN ATTIC - SIZE 1100 AFB1100
	AFC	36	36	1	FIN ATTIC 1200 - AF1200
	AFD	36	36	1	FIN ATTIC - SIZE 1300
	AFE	35	35	1	FIN ATTIC - SIZE 1400
	AFF	35	35	1	FIN ATTIC - SIZE 1500
	AFG	35	35	1	FINISHED ATTIC SZ 1600 AF1600
	AU1	7	7	1	UNFIN ATTIC - 100 S/F
	AU2	7	7	1	UNFIN ATTIC - 200 S/F
	AU3	7	7	1	UNFIN ATTIC - 300 S/F
	AU4	7	7	1	UNFIN ATTIC - 400 S/F
	AU5	7	7	1	UNFIN ATTIC - 500 S/F
	AU6	7	7	1	UNFIN ATTIC - 600 S/F
	AU7	6	6	1	UNFIN ATTIC - 700 S/F
	AU8	6	6	1	UNFIN ATTIC - 800 S/F
	AU9	6	6	1	UNFIN ATTIC - 900 S/F
	AUA	6	6	1	UNFIN ATTIC - 1000 S/F
	AUB	6	6	1	UNFIN ATTIC - 1100 S/F
	AUC	6	6	1	UNFIN ATTIC - 1200 S/F
	AUD	6	6	1	UNFIN ATTIC - 1300 S/F
	AUE	6	6	1	UNFIN ATTIC - 1400 S/F
	AUF	6	6	1	UNFIN ATTIC - 1500 S/F
	AUG	6	6	1	UNFIN ATTIC - 1600 S/F
	AUH	6	6	1	UNFIN ATTIC - 1700 S/F
	AUJ	5	5	1	UNFIN ATTIC - 1800 S/F
	AUK	5	5	1	UNFIN ATTIC - 1900 S/F
	AUL	5	5	1	UNFIN ATTIC - 2100 S/F

AUM	5	5	1	UNFIN ATTIC - 2300 S/F
AUN	5	5	1	UNFIN ATTIC - 2500 S/F
AUO	5	5	1	UNFIN ATTIC - 2700 S/F
AUP	5	5	1	UNFIN ATTIC - 2900 S/F
AUQ	5	5	1	UNFIN ATTIC - 3100 S/F
AUR	5	5	1	UNFIN ATTIC - 3300 S/F
AUS	5	5	1	UNFIN ATTIC - 3500 S/F
AUZ	5	5	1	UNFIN ATTIC - 9999 S/F
AF2	45	45	2	FIN ATTIC - SIZE 200
AF3	44	44	2	FIN ATTIC - SIZE 300
AF4	43	43	2	FIN ATTIC - SIZE 400
AF5	42	42	2	FIN ATTIC - SIZE 500
AF6	41	41	2	FIN ATTIC - SIZE 600
AF7	40	40	2	FIN ATTIC - SIZE 700
AF8	39	39	2	FIN ATTIC - SIZE 800
AF9	38	38	2	FIN ATTIC - SIZE 900
AFA	37	37	2	FIN ATTIC - SIZE 1000
AFB	36	36	2	FIN ATTIC - SIZE 1100 AFB1100
AFC	36	36	2	FIN ATTIC 1200 - AF1200
AFD	36	36	2	FIN ATTIC - SIZE 1300
AFE	35	35	2	FIN ATTIC - SIZE 1400
AFF	35	35	2	FIN ATTIC - SIZE 1500
AFG	35	35	2	FINISHED ATTIC SZ 1600 AF1600
AU1	7	7	2	UNFIN ATTIC - 100 S/F
AU2	7	7	2	UNFIN ATTIC - 200 S/F
AU3	7	7	2	UNFIN ATTIC - 300 S/F
AU4	7	7	2	UNFIN ATTIC - 400 S/F
AU5	7	7	2	UNFIN ATTIC - 500 S/F
AU6	7	7	2	UNFIN ATTIC - 600 S/F
AU7	6	6	2	UNFIN ATTIC - 700 S/F
AU8	6	6	2	UNFIN ATTIC - 800 S/F
AU9	6	6	2	UNFIN ATTIC - 900 S/F
AUA	6	6	2	UNFIN ATTIC - 1000 S/F
AUB	6	6	2	UNFIN ATTIC - 1100 S/F
AUC	6	6	2	UNFIN ATTIC - 1200 S/F
AUD	6	6	2	UNFIN ATTIC - 1300 S/F
AUE	6	6	2	UNFIN ATTIC - 1400 S/F
AUF	6	6	2	UNFIN ATTIC - 1500 S/F
AUG	6	6	2	UNFIN ATTIC - 1600 S/F
AUH	6	6	2	UNFIN ATTIC - 1700 S/F
AUJ	5	5	2	UNFIN ATTIC - 1800 S/F
AUK	5	5	2	UNFIN ATTIC - 1900 S/F
AUL	5	5	2	UNFIN ATTIC - 2100 S/F

AUM	5	5	2	UNFIN ATTIC - 2300 S/F
AUN	5	5	2	UNFIN ATTIC - 2500 S/F
AUO	5	5	2	UNFIN ATTIC - 2700 S/F
AUP	5	5	2	UNFIN ATTIC - 2900 S/F
AUQ	5	5	2	UNFIN ATTIC - 3100 S/F
AUR	5	5	2	UNFIN ATTIC - 3300 S/F
AUS	5	5	2	UNFIN ATTIC - 3500 S/F
AUZ	5	5	2	UNFIN ATTIC - 9999 S/F
AF2	45	45	3	FIN ATTIC - SIZE 200
AF3	44	44	3	FIN ATTIC - SIZE 300
AF4	43	43	3	FIN ATTIC - SIZE 400
AF5	42	42	3	FIN ATTIC - SIZE 500
AF6	41	41	3	FIN ATTIC - SIZE 600
AF7	40	40	3	FIN ATTIC - SIZE 700
AF8	39	39	3	FIN ATTIC - SIZE 800
AF9	38	38	3	FIN ATTIC - SIZE 900
AFA	37	37	3	FIN ATTIC - SIZE 1000
AFB	36	36	3	FIN ATTIC - SIZE 1100 AFB1100
AFC	36	36	3	FIN ATTIC 1200 - AF1200
AFD	36	36	3	FIN ATTIC - SIZE 1300
AFE	35	35	3	FIN ATTIC - SIZE 1400
AFF	35	35	3	FIN ATTIC - SIZE 1500
AFG	35	35	3	FINISHED ATTIC SZ 1600 AF1600
AU1	7	7	3	UNFIN ATTIC - 100 S/F
AU2	7	7	3	UNFIN ATTIC - 200 S/F
AU3	7	7	3	UNFIN ATTIC - 300 S/F
AU4	7	7	3	UNFIN ATTIC - 400 S/F
AU5	7	7	3	UNFIN ATTIC - 500 S/F
AU6	7	7	3	UNFIN ATTIC - 600 S/F
AU7	6	6	3	UNFIN ATTIC - 700 S/F
AU8	6	6	3	UNFIN ATTIC - 800 S/F
AU9	6	6	3	UNFIN ATTIC - 900 S/F
AUA	6	6	3	UNFIN ATTIC - 1000 S/F
AUB	6	6	3	UNFIN ATTIC - 1100 S/F
AUC	6	6	3	UNFIN ATTIC - 1200 S/F
AUD	6	6	3	UNFIN ATTIC - 1300 S/F
AUE	6	6	3	UNFIN ATTIC - 1400 S/F
AUF	6	6	3	UNFIN ATTIC - 1500 S/F
AUG	6	6	3	UNFIN ATTIC - 1600 S/F
AUH	6	6	3	UNFIN ATTIC - 1700 S/F
AUJ	5	5	3	UNFIN ATTIC - 1800 S/F
AUK	5	5	3	UNFIN ATTIC - 1900 S/F
AUL	5	5	3	UNFIN ATTIC - 2100 S/F

AUM	5	5	3	UNFIN ATTIC - 2300 S/F
AUN	5	5	3	UNFIN ATTIC - 2500 S/F
AUO	5	5	3	UNFIN ATTIC - 2700 S/F
AUP	5	5	3	UNFIN ATTIC - 2900 S/F
AUQ	5	5	3	UNFIN ATTIC - 3100 S/F
AUR	5	5	3	UNFIN ATTIC - 3300 S/F
AUS	5	5	3	UNFIN ATTIC - 3500 S/F
AUZ	5	5	3	UNFIN ATTIC - 9999 S/F

Residential Basement Tables

	Code	1st Flr Rate	Up Rate	Model	Description
	F01	22	22	1	FIN BASEMENT - SIZE 499
	F02	21	21	1	FIN BASEMENT - SIZE 799
	F03	20	20	1	FIN BASEMENT - SIZE 850
	F04	19	19	1	FIN BASEMENT - SIZE 899
	F05	18	18	1	FIN BASEMENT - SIZE 949
	F06	18	18	1	FIN BASEMENT - SIZE 999
	F07	17.5	17.5	1	FIN BASEMENT - SIZE 1049
	F08	17.5	17.5	1	FIN BASEMENT - SIZE 1149
	F09	17	17	1	FIN BASEMENT - SIZE 1249
	F10	17	17	1	FIN BASEMENT - SIZE 1299
	F11	16.5	16.5	1	FIN BASEMENT - SIZE 1399
	F12	16.5	16.5	1	FIN BASEMENT - SIZE 1499
	F13	16	16	1	FIN BASEMENT - SIZE 1549
	F14	16	16	1	FIN BASEMENT - SIZE 1699
	F15	15.5	15.5	1	FIN BASEMENT - SIZE 1849
	F16	15.5	15.5	1	FIN BASEMENT - SIZE 1999
	F17	15	15	1	FIN BASEMENT - SIZE 2149
	F18	15	15	1	FIN BASEMENT - SIZE 2349
	F19	14.5	14.5	1	FIN BASEMENT - SIZE 2599
	F20	14.5	14.5	1	FIN BASEMENT - SIZE 2899
	F21	14.5	14.5	1	FIN BASEMENT - SIZE 3199
	F22	14	14	1	FIN BASEMENT - SIZE 3449
	F23	14	14	1	FIN BSMT SIZE 3749 RBF23
	F24	13.5	13.5	1	FIN BASEMENT - SIZE 4000
	F25	13	13	1	FINISHED BSMT SZ 99999 RBF25
	F99	0	0	1	BASEMENT IS CELLAR
	FDA	6	6	1	SEMI-FIN BASEMENT RBF9AA
	FLA	6	6	1	SEMI-FIN BASEMENT RBF99A
	U01	16	16	1	UNFIN BASEMENT-SIZE 499
	U02	15	15	1	UNFIN BASEMENT-SIZE 799
	U03	14.5	14.5	1	UNFIN BASEMENT-SIZE 850
	U04	14	14	1	UNFIN BASEMENT-SIZE 899
	U05	13.5	13.5	1	UNFIN BASEMENT-SIZE 949
	U06	13	13	1	UNFIN BASEMENT-SIZE 999
	U07	13	13	1	UNFIN BASEMENT-SIZE 1049
	U08	12.5	12.5	1	UNFIN BASEMENT-SIZE 1149

U09	12.5	12.5	1	UNFIN BASEMENT-SIZE 1249
U10	12.5	12.5	1	UNFIN BASEMENT-SIZE 1299
U11	12	12	1	UNFIN BASEMENT-SIZE 1399
U12	12	12	1	UNFIN BASEMENT-SIZE 1499
U13	12	12	1	UNFIN BASEMENT-SIZE 1549
U14	11.5	11.5	1	UNFIN BASEMENT-SIZE 1699
U15	11.5	11.5	1	UNFIN BASEMENT-SIZE 1849
U16	11.5	11.5	1	UNFIN BASEMENT-SIZE 1999
U17	11	11	1	UNFIN BASEMENT-SIZE 2149
U18	11	11	1	UNFIN BASEMENT-SIZE 2349
U19	11	11	1	UNFIN BASEMENT-SIZE 2599
U20	10	10	1	UNFIN BASEMENT-SIZE 2899
U21	10	10	1	UNFIN BASEMENT-SIZE 3199
U22	10	10	1	UNFIN BASEMENT-SIZE 3449
U23	10	10	1	UNFIN BASEMENT-SIZE 3749
U24	10	10	1	UNFIN BASEMENT-SIZE 4000
U25	10	10	1	UNFIN BASEMENT-SIZE 99999
U99	0	0	1	BASEMENT IS CELLAR
F01	22	22	2	FIN BASEMENT - SIZE 499
F02	21	21	2	FIN BASEMENT - SIZE 799
F03	20	20	2	FIN BASEMENT - SIZE 850
F04	19	19	2	FIN BASEMENT - SIZE 899
F05	18	18	2	FIN BASEMENT - SIZE 949
F06	18	18	2	FIN BASEMENT - SIZE 999
F07	17.5	17.5	2	FIN BASEMENT - SIZE 1049
F08	17.5	17.5	2	FIN BASEMENT - SIZE 1149
F09	17	17	2	FIN BASEMENT - SIZE 1249
F10	17	17	2	FIN BASEMENT - SIZE 1299
F11	16.5	16.5	2	FIN BASEMENT - SIZE 1399
F12	16.5	16.5	2	FIN BASEMENT - SIZE 1499
F13	16	16	2	FIN BASEMENT - SIZE 1549
F14	16	16	2	FIN BASEMENT - SIZE 1699
F15	15.5	15.5	2	FIN BASEMENT - SIZE 1849
F16	15.5	15.5	2	FIN BASEMENT - SIZE 1999
F17	15	15	2	FIN BASEMENT - SIZE 2149
F18	15	15	2	FIN BASEMENT - SIZE 2349
F19	14.5	14.5	2	FIN BASEMENT - SIZE 2599
F20	14.5	14.5	2	FIN BASEMENT - SIZE 2899
F21	14.5	14.5	2	FIN BASEMENT - SIZE 3199
F22	14	14	2	FIN BASEMENT - SIZE 3449
F23	14	14	2	FIN BSMT SIZE 3749 RBF23
F24	13.5	13.5	2	FIN BASEMENT - SIZE 4000
F25	13	13	2	FINISHED BSMT SZ 99999 RBF25

F99	0	0	2	BASEMENT IS CELLAR
FDA	6	6	2	SEMI-FIN BASEMENT RBF9AA
FLA	6	6	2	SEMI-FIN BASEMENT RBF99A
U01	16	16	2	UNFIN BASEMENT-SIZE 499
U02	15	15	2	UNFIN BASEMENT-SIZE 799
U03	14.5	14.5	2	UNFIN BASEMENT-SIZE 850
U04	14	14	2	UNFIN BASEMENT-SIZE 899
U05	13.5	13.5	2	UNFIN BASEMENT-SIZE 949
U06	13	13	2	UNFIN BASEMENT-SIZE 999
U07	13	13	2	UNFIN BASEMENT-SIZE 1049
U08	12.5	12.5	2	UNFIN BASEMENT-SIZE 1149
U09	12.5	12.5	2	UNFIN BASEMENT-SIZE 1249
U10	12.5	12.5	2	UNFIN BASEMENT-SIZE 1299
U11	12	12	2	UNFIN BASEMENT-SIZE 1399
U12	12	12	2	UNFIN BASEMENT-SIZE 1499
U13	12	12	2	UNFIN BASEMENT-SIZE 1549
U14	11.5	11.5	2	UNFIN BASEMENT-SIZE 1699
U15	11.5	11.5	2	UNFIN BASEMENT-SIZE 1849
U16	11.5	11.5	2	UNFIN BASEMENT-SIZE 1999
U17	11	11	2	UNFIN BASEMENT-SIZE 2149
U18	11	11	2	UNFIN BASEMENT-SIZE 2349
U19	11	11	2	UNFIN BASEMENT-SIZE 2599
U20	10	10	2	UNFIN BASEMENT-SIZE 2899
U21	10	10	2	UNFIN BASEMENT-SIZE 3199
U22	10	10	2	UNFIN BASEMENT-SIZE 3449
U23	10	10	2	UNFIN BASEMENT-SIZE 3749
U24	10	10	2	UNFIN BASEMENT-SIZE 4000
U25	10	10	2	UNFIN BASEMENT-SIZE 99999
U99	0	0	2	BASEMENT IS CELLAR
F01	22	22	3	FIN BASEMENT - SIZE 499
F02	21	21	3	FIN BASEMENT - SIZE 799
F03	20	20	3	FIN BASEMENT - SIZE 850
F04	19	19	3	FIN BASEMENT - SIZE 899
F05	18	18	3	FIN BASEMENT - SIZE 949
F06	18	18	3	FIN BASEMENT - SIZE 999
F07	17.5	17.5	3	FIN BASEMENT - SIZE 1049
F08	17.5	17.5	3	FIN BASEMENT - SIZE 1149
F09	17	17	3	FIN BASEMENT - SIZE 1249
F10	17	17	3	FIN BASEMENT - SIZE 1299
F11	16.5	16.5	3	FIN BASEMENT - SIZE 1399
F12	16.5	16.5	3	FIN BASEMENT - SIZE 1499
F13	16	16	3	FIN BASEMENT - SIZE 1549
F14	16	16	3	FIN BASEMENT - SIZE 1699

F15	15.5	15.5	3	FIN BASEMENT - SIZE 1849
F16	15.5	15.5	3	FIN BASEMENT - SIZE 1999
F17	15	15	3	FIN BASEMENT - SIZE 2149
F18	15	15	3	FIN BASEMENT - SIZE 2349
F19	14.5	14.5	3	FIN BASEMENT - SIZE 2599
F20	14.5	14.5	3	FIN BASEMENT - SIZE 2899
F21	14.5	14.5	3	FIN BASEMENT - SIZE 3199
F22	14	14	3	FIN BASEMENT - SIZE 3449
F23	14	14	3	FIN BSMT SIZE 3749 RBF23
F24	13.5	13.5	3	FIN BASEMENT - SIZE 4000
F25	13	13	3	FINISHED BSMT SZ 99999 RBF25
F99	0	0	3	BASEMENT IS CELLAR
FDA	6	6	3	SEMI-FIN BASEMENT RBF9AA
FLA	6	6	3	SEMI-FIN BASEMENT RBF99A
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U06	13	13	3	UNFIN BASEMENT-SIZE 999
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U08	12.5	12.5	3	UNFIN BASEMENT-SIZE 1149
U09	12.5	12.5	3	UNFIN BASEMENT-SIZE 1249
U10	12.5	12.5	3	UNFIN BASEMENT-SIZE 1299
U11	12	12	3	UNFIN BASEMENT-SIZE 1399
U12	12	12	3	UNFIN BASEMENT-SIZE 1499
U13	12	12	3	UNFIN BASEMENT-SIZE 1549
U14	11.5	11.5	3	UNFIN BASEMENT-SIZE 1699
U15	11.5	11.5	3	UNFIN BASEMENT-SIZE 1849
U16	11.5	11.5	3	UNFIN BASEMENT-SIZE 1999
U17	11	11	3	UNFIN BASEMENT-SIZE 2149
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U20	10	10	3	UNFIN BASEMENT-SIZE 2899
U21	10	10	3	UNFIN BASEMENT-SIZE 3199
U22	10	10	3	UNFIN BASEMENT-SIZE 3449
U23	10	10	3	UNFIN BASEMENT-SIZE 3749
U24	10	10	3	UNFIN BASEMENT-SIZE 4000
U25	10	10	3	UNFIN BASEMENT-SIZE 99999
U99	0	0	3	BASEMENT IS CELLAR

Codes for Exterior Walls, Foundation, Fireplace
Heating/Air Conditioning and Plumbing

Exterior Wall		
Code	Description	Rate Adj
01	Brick	1.1
02	Stone	1.2
03	Concrete Block	0
04	Stucco	1.2
05	Wood Panel/Log	1.2
06	Wood Siding (Frame)	Base
07	Asbestos	0.9
08	Alum/Vinyl	Base
09	Corrugated Metal	Comm
10	Precast Panel	Comm
11	Precast Sandwich	Comm
12	Hardiboard	1.1

Foundation		
Code	Description	Rate
1	Earth	-1.00
2	Pier/Post	-0.75
3	Continuous Slab	0.00
4	Perimeter Footings	0.00
5	Brick Veil	0.00
A	Continuous Slab (0)	0.00

Plumbing	
Description	Rate/Fix
Residential > 8 fixtures	1,000
Commercial	3,400

Fireplace - All Models		
Code	Description	Rate
0	No Fireplace	Base
F0	No Fireplace	Base
F1	Wood Stove Flue (02)	2,000
F2	Prefabricated FP (03)	2,000
F3	Ventless FP (03A)	2,200
F4	One Story Single (04)	3,500
F5	Two 1 Sty Sgl FP (04A)	6,000
F6	1 Sty Double FP (05)	4,900
F7	Two Sty Sgl FP (06)	4,900
F8	Two 2 Sty Sgl FP (06A)	9,800
F9	Two Sty Dbl FP (07)	6,900
FA	Massive Fireplace (08)	10,000
FB	Gas Logs	3,500
FC	Fireplace (10)	0

Heat/Air		
Code	Description	Rate
A	FORCED HOT AIR (05)	-1925
C	COOLING W/DUCTS (09)	700
E	RADIANT/ELEC/BB (03)	-2275
F	FLR/WALL FURNACE (02)	-3150
H	HVAC (10)	700
N	NO HEAT (01)	-4200
P	PACKAGED HEAT/COOL (07)	0
R	REVERSE CYCLE PUMP (08)	0
S	SPACE MONITOR (01A)	-1575
U	UNIT HEATERS (06)	-3500
W	RADIANT/WATER (04)	-1050

D. Stages of Construction, Field Worksheet, Grading Table and Cost/Design - North Carolina General Statute 105-285¹⁵ states that all real property shall be appraised as of January 1. As contractors/builders begin construction throughout any given year, the percent complete of a residential or commercial structure can vary as of January 1, therefore, the attached field worksheet and Stages of Construction are used as guidelines for estimating percent complete along with verification from the Rowan County Building Inspections Department as to the different trade permits, final inspections and certificates of occupancy provided. All major improvements receive a grade from the field appraiser based on quality of materials, workmanship, cost and design. Cost and design is an additional tool for staff appraisers to achieve the market value assigned to a structure based on its quality of workmanship, materials and design.

¹⁵ NCGS 105-285 of the Machinery Act of North Carolina 2017 Edition, pp128-134

Stages of Construction		
Stage	% Comp	Total %
Start-up - Permits, fees, ins.		
Survey, temps	2	2
Clear lot, rough grade, building p	2	4
Footings	2	6
Foundation walls and piers	4	10
Framing (floor, wall and roof)	21	31
Permanent Roof (shingles)	2	33
Rough-in Plumbing	4	37
Rough-in Wiring	3	40
Rough-in heat/cool (duct work)	2	42
Outside Windows/Doors	4	46
Siding and/or brick veneer	8	54
Chimney	2	56
Exterior Trim	2	58
Exterior Paint	2	59
Insulation (walls and ceilings)	2	61
Int Walls/Ceiling/Shtrk/Panel	6	67
Interior Trim	5	72
Kitchen Cab/Vanities, & Ctops	4	76
Interior Paint (prime)	1	77
Interior Paint Complete & WP	2	79
Plumbing Comp-baths & kitchen	2	81
Hardware -doors, wind,cabinets	1	82
Wiring Complete-fixtures & trim	2	84
Exterior Paint Complete	1	85
Heat/Air Cond Units Installed	4	89
Floor Covering-cpt, vinyl, wood	4	93
Appliances	2	95
O/S Concrete or Asphalt	2	97
Finish Grade and Landscaping	1	98
Misc-(deck, garage floor, septic)	2	100

Field Worksheet

NAME		PROPERTY LOCATION		APPRASERS INITIALS		MAP-DIV-RANGE		ACCOUNT #		PROPERTY #		TWP#		TAL DIST		ZONING	
SUMMARY OF OTHER IMPROVEMENTS																	
LAND CODE	CONS	SIZE	AREA	RATE	VA	DEP	VALUE	#									
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	
TRANSVERSE																	
CODE																	
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	
REMARKS																	

CLASS	LOC#	1	VIC	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60	B61	B62	B63	B64	B65	B66	B67	B68	B69	B70	B71	B72	B73	B74	B75	B76	B77	B78	B79	B80	B81	B82	B83	B84	B85	B86	B87	B88	B89	B90	B91	B92	B93	B94	B95	B96	B97	B98	B99	B100	B101	B102	B103	B104	B105	B106	B107	B108	B109	B110	B111	B112	B113	B114	B115	B116	B117	B118	B119	B120	B121	B122	B123	B124	B125	B126	B127	B128	B129	B130	B131	B132	B133	B134	B135	B136	B137	B138	B139	B140	B141	B142	B143	B144	B145	B146	B147	B148	B149	B150	B151	B152	B153	B154	B155	B156	B157	B158	B159	B160	B161	B162	B163	B164	B165	B166	B167	B168	B169	B170	B171	B172	B173	B174	B175	B176	B177	B178	B179	B180	B181	B182	B183	B184	B185	B186	B187	B188	B189	B190	B191	B192	B193	B194	B195	B196	B197	B198	B199	B200	B201	B202	B203	B204	B205	B206	B207	B208	B209	B210	B211	B212	B213	B214	B215	B216	B217	B218	B219	B220	B221	B222	B223	B224	B225	B226	B227	B228	B229	B230	B231	B232	B233	B234	B235	B236	B237	B238	B239	B240	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252	B253	B254	B255	B256	B257	B258	B259	B260	B261	B262	B263	B264	B265	B266	B267	B268	B269	B270	B271	B272	B273	B274	B275	B276	B277	B278	B279	B280	B281	B282	B283	B284	B285	B286	B287	B288	B289	B290	B291	B292	B293	B294	B295	B296	B297	B298	B299	B300	B301	B302	B303	B304	B305	B306	B307	B308	B309	B310	B311	B312	B313	B314	B315	B316	B317	B318	B319	B320	B321	B322	B323	B324	B325	B326	B327	B328	B329	B330	B331	B332	B333	B334	B335	B336	B337	B338	B339	B340	B341	B342	B343	B344	B345	B346	B347	B348	B349	B350	B351	B352	B353	B354	B355	B356	B357	B358	B359	B360	B361	B362	B363	B364	B365	B366	B367	B368	B369	B370	B371	B372	B373	B374	B375	B376	B377	B378	B379	B380	B381	B382	B383	B384	B385	B386	B387	B388	B389	B390	B391	B392	B393	B394	B395	B396	B397	B398	B399	B400	B401	B402	B403	B404	B405	B406	B407	B408	B409	B410	B411	B412	B413	B414	B415	B416	B417	B418	B419	B420	B421	B422	B423	B424	B425	B426	B427	B428	B429	B430	B431	B432	B433	B434	B435	B436	B437	B438	B439	B440	B441	B442	B443	B444	B445	B446	B447	B448	B449	B450	B451	B452	B453	B454	B455	B456	B457	B458	B459	B460	B461	B462	B463	B464	B465	B466	B467	B468	B469	B470	B471	B472	B473	B474	B475	B476	B477	B478	B479	B480	B481	B482	B483	B484	B485	B486	B487	B488	B489	B490	B491	B492	B493	B494	B495	B496	B497	B498	B499	B500	B501	B502	B503	B504	B505	B506	B507	B508	B509	B510	B511	B512	B513	B514	B515	B516	B517	B518	B519	B520	B521	B522	B523	B524	B525	B526	B527	B528	B529	B530	B531	B532	B533	B534	B535	B536	B537	B538	B539	B540	B541	B542	B543	B544	B545	B546	B547	B548	B549	B550	B551	B552	B553	B554	B555	B556	B557	B558	B559	B560	B561	B562	B563	B564	B565	B566	B567	B568	B569	B570	B571	B572	B573	B574	B575	B576	B577	B578	B579	B580	B581	B582	B583	B584	B585	B586	B587	B588	B589	B590	B591	B592	B593	B594	B595	B596	B597	B598	B599	B600	B601	B602	B603	B604	B605	B606	B607	B608	B609	B610	B611	B612	B613	B614	B615	B616	B617	B618	B619	B620	B621	B622	B623	B624	B625	B626	B627	B628	B629	B630	B631	B632	B633	B634	B635	B636	B637	B638	B639	B640	B641	B642	B643	B644	B645	B646	B647	B648	B649	B650	B651	B652	B653	B654	B655	B656	B657	B658	B659	B660	B661	B662	B663	B664	B665	B666	B667	B668	B669	B670	B671	B672	B673	B674	B675	B676	B677	B678	B679	B680	B681	B682	B683	B684	B685	B686	B687	B688	B689	B690	B691	B692	B693	B694	B695	B696	B697	B698	B699	B700	B701	B702	B703	B704	B705	B706	B707	B708	B709	B710	B711	B712	B713	B714	B715	B716	B717	B718	B719	B720	B721	B722	B723	B724	B725	B726	B727	B728	B729	B730	B731	B732	B733	B734	B735	B736	B737	B738	B739	B740	B741	B742	B743	B744	B745	B746	B747	B748	B749	B750	B751	B752	B753	B754	B755	B756	B757	B758	B759	B760	B761	B762	B763	B764	B765	B766	B767	B768	B769	B770	B771	B772	B773	B774	B775	B776	B777	B778	B779	B780	B781	B782	B783	B784	B785	B786	B787	B788	B789	B790	B791	B792	B793	B794	B795	B796	B797	B798	B799	B800	B801	B802	B803	B804	B805	B806	B807	B808	B809	B810	B811	B812	B813	B814	B815	B816	B817	B818	B819	B820	B821	B822	B823	B824	B825	B826	B827	B828	B829	B830	B831	B832	B833	B834	B835	B836	B837	B838	B839	B840	B841	B842	B843	B844	B845	B846	B847	B848	B849	B850	B851	B852	B853	B854
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Grade for all Models			
Grade	Description	Adj %	Model
100	100	1	1 and 3
A+-	A+-	1.4	1 and 3
A05	A+05	1.45	1 and 3
A10	A+10	1.5	1 and 3
A15	A+15	1.55	1 and 3
A20	A+20	1.6	1 and 3
A30	A+30	1.7	1 and 3
A40	A+40	1.8	1 and 3
A50	A+50	1.9	1 and 3
AA	AA+-	2	1 and 3
AAA	AAA	2.5	1 and 3
AM5	A-05	1.35	1 and 3
AMT	A-10	1.3	1 and 3
B+-	B+-	1.2	1 and 3
B05	B+05	1.25	1 and 3
B10	B+10	1.3	1 and 3
BM5	B-05	1.15	1 and 3
BMT	B-10	1.1	1 and 3
C+-	C+-	1	1 and 3
C05	C+05	1.05	1 and 3
C10	C+10	1.1	1 and 3
CM5	C-05	0.95	1 and 3
CMT	C-10	0.9	1 and 3
D+-	D+-	0.8	1 and 3
D05	D+05	0.85	1 and 3
D10	D+10	0.9	1 and 3
DM5	D-05	0.75	1 and 3
DMT	D-10	0.7	1 and 3
E+-	E+-	0.6	1 and 3
E05	E+05	0.65	1 and 3
E10	E+10	0.7	1 and 3
EM1	E-10	0.5	1 and 3
EM2	E-20	0.4	1 and 3
EM3	E-30	0.3	1 and 3
EM5	E-50	0.25	1 and 3

Grade	Description	Adj %	Model
M	MFC OLD C	1.0	2
MB	MFC OLD B	1.2	2
MD	MFC OLD D	.80	2
ME	MFC OLD E	.60	2
MM5	MFC -5	.95	2
MMT	MFC -10	.90	2
MP5	MFC +5	1.05	2
MPT	MFC +10	1.10	2

Factory-Produced

Factory-produced housing is a residential structure transported to a building site. There are three generally accepted categories of factory-produced housing, each of which has distinguishable characteristics and meet a unique set of criteria. The three categories are: manufactured, modular, and panelized. Because all three types of manufactured housing can resemble site-built housing in both appearance and cost, the following guidelines should be considered when estimating replacement cost.

- a. **Manufactured** houses consist of single or multi-wide units, eight feet or greater in width and at least thirty-two feet in length. After being transported on their own wheel chassis to the site, the units are set up as permanent or semi-permanent residences and connected to the necessary utilities. The wheel assembly can be removed when the house is placed on a permanent foundation, but the steel undercarriage remains intact as a necessary structural component. In some instances, the presence of a steel undercarriage as a necessary structural component is the primary distinguishing factor between a higher-quality manufactured home and a modular house. Manufactured housing will be priced from the manufactured housing table and modular housing will be priced as a site-built dwelling.

When a factory-built residential meets applicable local, state, or regional building code requirements for construction and carries the HUD seal for manufactured homes, the unit can be considered as either real or personal property for tax purposes based on the following criteria:

Doublewide manufactured homes are listed, assessed and billed as real estate in Rowan County.

Singlewide manufactured homes are listed, assessed and billed as personal property unless the following occurs:

1. Unit placed on permanent foundation; and
2. Tongue removed; and
3. Title surrendered to the Department of Motor Vehicles.

When all three items have been met and our office notified, the singlewide manufactured home will be reclassified from personal property to real property and valued as such for tax purposes.

- b. **Modular** housing will meet most local building codes and is subject to standard regional or state building codes for modular construction. Although a modular house can be transported on a steel undercarriage, the undercarriage is not a permanent and necessary structural component and is usually removed when the house is placed on a permanent foundation. Modular housing can sometimes be priced from the manufactured housing tables, but typically will be priced from the site-built tables.
- c. **Panelized** or prefabricated houses consist of packaged, factory-built components and are site-assembled. All must conform to local, state, or regional building codes for site-built construction. Some types of “kit” houses can be specially priced, however, when applicable, site-built tables will be used.

Townhouses

Townhouses are single-family attached residential dwellings. Townhouses will never have other units above or below them. These structures will always have individual exterior entries and cannot have more than two walls that are common with adjacent units. Townhouses own the land underneath the structure.

Condominiums

A condominium is one of a group of housing units where each property owner owns their individual unit air space, and all the dwellings share ownership of areas of common use. Unique to condominium ownership is that there is no individual ownership of land. All the land in the condominium project is most often owned in common by all the property owners. Typically the exterior walls and roof are insured by the condominium association while all interior walls and items are insured by the property owner.

II. Quality of Construction and Grading of Main Structures

Grade “AA-AAA” Dwellings – Excellent Quality

Excellent quality homes are usually individually designed and are characterized by the high quality of workmanship, finishes and appointments and the considerable attention to detail. These homes are built for upper income families by contractors who specialize in good quality construction. These homes will generally be found in affluent residential neighborhood districts. Much attention to detail and finish work, as well as considerable use of high quality materials are incorporated in this grade home.

Base Specifications:

Foundation: A continuous, reinforced concrete perimeter and interior bearing wall foundation based on a moderate climate.

Exterior Walls: Walls can be brick veneer, cedar shake shingles, stucco, vinyl, or frame siding. All exterior coverings will be of high quality and constructed with much attention to detail by experienced craftsman. Exterior walls will have ample insulation and numerous openings (windows & doors). Fenestration is well designed with high-quality sash. Custom ornamentation and trim, selected brick, cut stone, high-quality siding, etc. are used.

Roof: Slate, clay tile, asbestos, cedar shake shingles, or heavy asphalt shingles on heavy wood rafters and sheathing. Good quality gutters and downspouts.

Interior Finish Interior walls are taped and painted drywall with high-grade paper or vinyl wall covering, hardwood paneling or ceramic tile. Built-in book shelving and ample cabinets which may include such specialty cabinetry items as a cooking island, bar, desk, etc. High-quality pullman or vanity cabinets in bathrooms and dressing areas. Ceramic tile, marble or highest-quality laminated plastic countertops and splash. Ceilings are mostly painted drywall with molding and coving details and other ornamentation with some degree of intricacy in their design and/or finish. Vaulted or cathedral ceilings will usually be found in master bedrooms, dining, great or family rooms as well as entries. Raised panel hardwood veneer or enameled doors with good-quality hardware. Base, casings and moldings have tight mitered corners. Spacious walk-in closets or wardrobes with many built-in features. Large linen storage closets and pantry are fully shelved.

- Floors:** Wood or steel floor joists and subfloor on first and upper floors. High-quality carpet or hardwood terrazzo, and vinyl, ceramic or quarry tile.
- Plumbing:** Very good quality tile floors and tiled or papered bathroom walls, copper piping and eight high quality fixtures (kitchen sink, toilet, bathtub/shower stall, bathroom sink and water heater) are included in the base price.
- Heating:** Heat pumps and package heat/air are included in base price.
- Electrical:** Very good quality wiring, well positioned electrical outlets and high quality light fixtures.
- Fireplaces:** All fireplace components are considered an add-on.

Grade “A” Dwellings – Very Good Quality

Very good quality homes are typical of those built in high-quality tracts or developments and are frequently custom-built homes which are often designed by an architect. These homes are built for upper income families by contractors who specialize in good quality construction. These homes will generally be found in affluent residential neighborhood districts. Much attention to detail and finish work, as well as considerable use of high quality materials are incorporated in this grade home.

Base Specifications:

- Foundation:*** Brick or reinforced concrete foundation walls, footings with interior piers.
- Exterior Walls:*** Walls can be brick veneer, cedar shake shingles, stucco, vinyl, or frame siding. All exterior coverings will be of high quality and constructed with much attention to detail by experienced craftsman. Exterior walls will have ample insulation, good fenestration (windows & doors) and some custom ornamentation.
- Roof:*** Slate, tile, asbestos, cedar shake shingles, or heavy asphalt shingles on good quality sheathing and well braced rafters. Good quality gutters and downspouts.
- Interior Finish:*** Fine finished drywall or plaster walls, good quality standard paneling and solid interior doors. High grade vinyl wall paper and matching trim. Custom cabinets with best quality hardware. Standard kitchen built-ins are included in base price.
- Floors:*** Wood sub-floor with high quality hardwood or carpet coverings.
- Plumbing:*** Very good quality tile floors and tiled or papered bathroom walls, copper piping and eight high quality fixtures (kitchen sink, toilet, bathtub/shower stall, bathroom sink and water heater) are included in the base price.
- Heating:*** Heat pumps and package heat/air are included in base price.
- Electrical:*** Very good quality wiring, well positioned electrical outlets and high quality light fixtures.
- Fireplaces:*** All fireplace components are considered an add-on.

Grade “B” Dwellings – Good Quality

Good quality homes are custom-built or well constructed speculative homes which are normally found in upper middle or middle income residential district. They are constructed with good quality materials and workmanship with an above average attention given to detail. These homes generally exceed minimum building codes for local governments and lending institutions.

Base Specifications:

- Foundation:** Brick or reinforced concrete foundation walls, concrete footings with interior piers.
- Exterior Walls:** Walls can be brick veneer, stucco, vinyl, or frame siding. All exterior walls will be of above average quality and constructed with attention to detail by experienced craftsman. Exterior walls will be insulated and have ample openings (windows & doors).
- Roof:** Asbestos, cedar shake shingles, or good quality asphalt shingles on wood sheathing and rafters or truss systems. Good quality gutters and downspouts.
- Interior Finish:** Good finished drywall, plaster, average to good quality paneling or papered walls. Good grade hollow-core doors, custom cabinets with matching hardware. Standard kitchen built-ins are included in base price.
- Floors:** Wood sub-floor with hardwood or carpet coverings.
- Plumbing:** Good quality tile floors and tiled or papered bathroom walls, copper piping and eight good quality fixtures (kitchen sink, toilet, bathtub/ shower stall, bathroom sink and water heater) are included in the base price.
- Heating:** Heat pumps and package heat/air are included in base price.
- Electrical:** Good quality wiring, good amount of electrical outlets and attractive light fixtures.
- Fireplaces:** All fireplace components are considered an add-on.

Grade “C” Dwellings –Average Quality

Average quality homes are the prevalent homes. They are usually built in subdivision locations allowing many to be built following a specified period of time and sold to low-middle to middle income families. These homes are constructed with materials that are readily acceptable and meet or exceed minimum building codes for local governments and lending institutions. Adequate attention is shown to detail on both interior and exterior finish work.

Base Specifications:

- Foundation:** Brick or concrete block foundation walls, concrete footings with interior piers.
- Exterior Walls:** Walls can be brick veneer, stucco, vinyl, or frame siding. All exterior walls will be of average quality materials (stock items) and constructed with adequate attention to detail by experienced craftsmen. Walls will be insulated and have adequate openings (windows & doors).
- Roof:** Average quality asphalt shingles on grade plywood sheathing and rafters or truss systems. Most often will have galvanized gutters and downspouts.
- Interior Finish:** Drywall, average quality paneling or papered walls. Medium grade or stock hollow-core doors. Stock cabinets and hardware, no built-ins, and some attention to detail paid to finish work.
- Floors:** Wood sub-floor with hardwood or carpet coverings.
- Plumbing:** Stock quality tile floors and partially tiled or papered bathroom walls, galvanized or plastic piping and eight average quality fixtures (kitchen sink, toilet, bathtub/shower stall, bathroom sink and water heater) are included in base price.
- Heating:** Heat pumps and package heat/air are included in base price.
- Electrical:** Adequate quality wiring, adequate number of electrical outlets and stock light fixtures.
- Fireplaces:** All fireplace components are considered an add-on.

Grade “D” Dwellings – Fair Quality

Fair quality homes are usually built in quantity for moderate income families using average to low cost materials and expense saving construction methods.

Workmanship, finish work, and materials are usually slightly below average quality, however, they will normally meet local building codes of government and lending institutions. Attention to detail is limited on both interior and exterior finish work.

Base Specifications:

- Foundation:*** Brick or concrete block foundation walls, concrete footings with interior on perimeter piers.
- Exterior Walls:*** Walls can be brick veneer, stucco, vinyl, or frame siding. All exterior walls will be of average or below average quality materials and constructed with little attention to detail by experienced craftsmen. Walls will have minimum insulation and adequate openings (windows & doors).
- Roof:*** Light weight asphalt shingles or exterior grade plywood and rafters or pre-fab truss system. May have galvanized gutters and downspouts.
- Interior Finish:*** Drywall, inexpensive paneling or papered walls. Low cost hollow core or flat panel doors. Few cabinets and hardware, no built-ins, and little attention to detail paid to finish work.
- Floors:*** Wood sub-floor with low cost hardwood, tile or carpet coverings.
- Plumbing:*** Low cost tile floors and partially tiled or papered bathroom walls, and galvanized or plastic piping. Eight low cost fixtures (kitchen sink, toilet, bathtub/shower stall, bathroom sink and water heater) are included in base price.
- Heating:*** Heat pumps and package heat/air are included in base price.
- Electrical:*** Adequate quality wiring. Minimum number of electrical outlets and some low cost light fixtures.
- Fireplaces:*** All fireplace components are considered an add-on.

Grade “E” Dwellings – Low Quality

Low quality homes are constructed for low income families or as rental units using low cost materials, but are designed to meet minimum building codes. Interior and exterior finish is very plain with very little attention given to detail. Design is primarily for functional use and little else.

Base Specifications:

- Foundation:** Concrete block foundation walls with minimum concrete footings and piers.
- Exterior Walls:** Walls can be either frame siding, vinyl or concrete block. All walls will be of low cost quality materials, but will usually be constructed by craftsmen. Walls will have no insulation and minimum openings (windows & doors).
- Roof:** Light weight asphalt shingles, roll or metal on exterior grade plywood and rafters or pre-fab truss systems.
- Interior Finish:** Drywall, low cost paneling or papered walls. Lowest cost hollow core or flat panel doors. Few cabinets and hardware, no built-ins.
- Floors:** Wood sub-floor with low cost asphalt tile.
- Plumbing:** Low cost asphalt tile floors and bathroom walls, and galvanized, plastic, or black piping. Eight low cost fixtures (kitchen sink, toilet, bathtub/shower stall, bathroom sink and water heater) are included in base price.
- Heating:** Heat pumps and package heat/air are included in base price.
- Electrical:** Adequate quality wiring. Minimum electrical outlets and few low cost light fixtures.
- Fireplaces:** All fireplace components are considered an add-on.

E. Additions and Outbuildings.

Many residential dwellings have attachments, such as a deck, porch, garage, etc. and the various types of attachments and are added to the dwelling/structure replacement cost value before depreciation is applied.

In addition, many residential or even commercial properties have detached buildings, such as a shed, storage building, garage, etc. These detached buildings/structures are part of the overall tax value

F. Residential Main Area Rates.

Typical residential structures that are valued as real property in Rowan County include, a single-family dwelling, doublewide manufactured home or singlewide manufactured home converted to real property, condominium, townhouse, garage apartments, guest house, and some duplex/triplex structures. Special conditions might cause one of these to be valued as something other than residential, however, the appraiser would evaluate those conditions on a one-to-one basis. Base building rates for these main area codes are as follows:

Residential Codes/Rates *			
Code	Model	Description	Rate
30	2	RP -MOBILE HOME	34.38
37	1	SINGLE FAMILY DWELLING	71.20
37	1	SINGLE FAMILY DWELLING	71.20
79	1	GUEST HOUSE 40 MA79W	71.20
80	1	HOUSE OVER GARAGE	71.20
37H	3	TRACK HOME	70.56
* Above rates are based on models shown below:			
	1	Base Square Footage	1,250
	2	Base Square Footage	1,600
	3	Base Square Footage	1,800

Addition Codes

Code	1st Flr Rate	Up Flr Rate	Description
A1	41.9	41.9	BRICK ADDITION
A10	30	30	ENCLOSED MASONRY PORCH
A11	45.3	45.3	FRAME ADDITION
A12	8.7	8.7	FRAME DECK
A13	19.2	19.2	FRAME GARAGE
A14	19.2	19.2	FRAME GARAGE
A15	20.7	20.7	FRAME/METAL STORAGE BLDG
A17	21.7	21.7	FULL SCREEN PORCH
A19	19.3	19.3	HALF SCREENED PORCH
A2	19.3	19.3	BRICK GARAGE
A20	10.7	10.7	MASONRY STOOP
A21	23.5	23.5	MASONRY STORAGE
A22	1	1	MEZZANINE FINISHED
A23	58	58	ABOVE AVG EXTERIOR FIN
A24	52	52	AVERAGE EXTERIOR FINISH
A25	2.5	2.5	PASSENGER ELEVATOR
A26	2	2	SLAB
A28	30	30	AVERAGE INTERIOR FINISH
A3	19.3	19.3	BRICK GARAGE
A30	24	24	FRAME PARTITIONING PER LF
A32	20	20	MASONRY WAREHOUSE
A33	26	26	MISCELLANEOUS STORAGE
A37	7	7	PATIO
A3A	19.9	19.9	GARAGE
A3B	19.9	19.9	GARAGE W/BONUS ROOM
A3C	30	30	GARAGE W/SHOP
A3D	40	40	GARAGE W/SHOP FIN AREA
A4	10	10	CANOPY (AC 04)
A41	30	30	FRAME GARAGE W/ATTIC
A42	31	31	FRAME GARAGE W/ATTIC
A43	31	31	BRICK GARAGE W/ATTIC
A44	30	30	BRICK GARAGE W/ATTIC
A4A	17	17	OUTDOOR CANOPY

Code	1st Flr Rate	Up Flr Rate	Description
A5	20	20	CARPORT
A51	4	4	LEAN-TO
A53	10	10	WAREHOUSING/STG UNHEATED
A5A	55	55	CARPORT W/UPPER LEVEL
A5B	30	30	CARPORT W/UPPER FLR
A6	17.6	17.6	COVERED PORCH
A6A	61	61	COV PORCH W/UPPER LEVEL
A6B	10.7	10.7	COVERED PORCH
A7	28		DOCK
A70	19.3	19.3	UNFIN UPPER FLR/BONUS RM
A76	48	48	CARPORT/GARAGE CONVERSION
A77	9	9	OPEN SHED - LEAN/TO
A8	29.1	29.1	ENCLOSED FRAME/METL PORCH
A9	68	68	ENCLOSED GLASS PORCH
A9A	80	80	SUNROOM
A9B	42	42	ENCLOSED PORCH
A9C	12	12	ENCLOSURE AROUND POOL
AC1	23.4	23.4	FRAME ADDN OVERRIDE
AC2	8	8	FRAME DECK
AC4	16	16	GARAGE - DIRT FLOOR
AC5	19.3	19.3	ENCLOSED VEHICLE STORAGE
AC6	32	32	WORKSHOP
AC7	30	30	BREEZEWAY
AC8	18	18	FULL SCREEN PORCH
ACB	7	7	PASSENGER ELEVATOR
ACH	18	18	ENCL PORCH/STORAGE
ACI	12	12	PATIO COVERED
ACK	48	48	GARAGE W/UPPER LEVEL
ACL	56	56	GARAGE W/UPPER LEVEL
ACM	64	64	GARAGE W/UPPER LEVEL
ACS	42	42	ADDITION/EXISTING STRUCT
AXA	12	12	FRAME DECK COVERED
AXB	15	15	SCREEN DECK
AXC	63	63	HALLWAY/ENTRY

Outbuilding Codes		
Type/Code	Description	Rate
MS 01	Egg/Apple House	27.00
MS 02	Grain Bin	1.00
MS 0201	Grain Bin	5.00
MS 0202	Grain Bin	7.00
MS 03	Grain Elevator	5.00
MS 04	Granary/Crib	10.00
MS 05	Greenhouse	7.00
MS 0501	Greenhouse	8.50
MS 06	Hog Parlor	22.00
MS 07	Implement Shed	9.00
MS 07A	Implement Shed	3.00
MS 07B	Implement Shed	6.00
MS 08	Milk Parlor	35.00
MS 09	Poultry House	4.00
MS 0901	Poultry House	3.00
MS 10	Shed	15.00
MS 1001	Shed	8.00
MS 1002	Shed	20.00
MS 1003	Shed-Golf Cart Storage	20.00
MS 1004	Shed-Equipment Stg	18.00
MS 1005	Shed	10.00
MS 11	Shop	20.00
MS 1101	Shop	17.00
MS 1102	Shop	10.00
MS 1103	Shop	35.00
MS 1104	Shop-General Purpose	25.00
MS 1105	Shop	16.00
MS 12	Silo	24.00
MS 13	Stable	38.00
MS 14	Stock/Feed Barn	18.00
MS 1401	Stock/Feed Barn	10.00
MS 15	Storage Barn	13.00
MS 1501	Storage Barn	12.00
MS 1502	Storage Barn	6.00
MS 16	Tobacco Barn	10.00
MS 17	Horse Barn	40.00
MS 1701	Horse Barn	24.00
MS 1702	Horse Barn	55.00

Outbuilding Codes		
Type/Code	Description	Rate
MS 1703	Horse Barn	18.00
MS 1704	Horse Barn	10.00
MS 18	Hay Barn	14.00
MS 1801	Hay Barn	7.00
MS 19	Dairy Barn	25.00
MS 20	Lounging Shed	6.00
MS 21	Pole Shed	9.00
MS 2101	Pole Shed	6.00
MS 2102	Pole Shed	12.00
MS 2103	Pole Shed	3.00
MS 22	Lean-To Shelter	5.00
MS 2201	Lean-To Shelter	4.00
MS 2202	Lean-To Shelter	8.00
MS 23	Gate	8.00
MS24	Fence	24.00
MS 2401	Fence-Vinyl Coated	40.00
MS 2402	Fence-Vinyl Coated-3 Rail	26.00
MS 2403	Fence-3 or 4 Rail	14.00
MS 25	Storage Building	15.00
MS 2501	Storage Building	25.00
MS 2502	Storage Building	54.00
MS 2503	Storage Building	38.00
MS 2504	Storage Building	14.00
MS 2505	Storage Building	6.00
MS 2506	Storage Building	10.00
MS 2507	Storage Building	9.00
MS 2508	Storage Building	20.00
MS 26	Carport	18.00
MS 2601	Carport	5.00
MS 2602	Carport/Canopy-Low Cost	2.00
MS 2603	Carport Apartment	50.00
MS 27	Carport Att/Detached	10.00
MS 2701	Carport Att/Detached	12.00
MS 28	Canopy	9.00
MS 2801	Canopy	5.00
MS 2802	Canopy	39.00
MS 2803	Canopy - Lumber Storage	20.00
MS 2804	Canopy - Lumber Storage	15.00

Outbuilding Codes		
Type/Code	Description	Rate
MS 30	Garage - Detached	28.00
MS 3001	Garage - Detached	16.00
MS 3002	Garage - Detached	22.00
MS 3003	Garage - Detached	12.00
MS 3004	Garage - Detached	18.00
MS 3005	Garage - Detached	38.00
MS 3006	Garage -Det Metal/Frm	7.50
MS 31	Frame Gar w/Unf Attic	34.00
MS 3101	Det Gar w/Upper flr	20.00
MS 32	Frame Garage Apartmt	60.00
MS 3201	Frame Garage Apartmt	66.00
MS 3202	Frame Garage Apartmt	58.00
MS 3203	Frame Garage Apartmt	56.00
MS 3204	Frame Garage Apartmt	36.00
MS 33	Brick Gar w/Unf Attic	30.00
MS 3301	Det Brk Gar w/Upper Flr	42.00
MS 34	Brick Garage Apartment	62.00
MS 3401	Brk Det Gar w/Bonus Rm	62.00
MS 35	Swimming Pool/Conc	40.00
MS 3501	Swimming Pool-High Qty	52.00
MS 36	Swimming Pool/Vinyl	28.00
MS 3601	Swimming Pool-Comm	46.00
MS 3602	Swim Pool-Vinyl/High Qty	42.00
MS 37	Swimming Pool/Fibergl	28.00
MS 38	Bath House	60.00
MS 38A	Bath House	40.00
MS 39	Gazebo	20.00
MS 39A	Outdoor Living Area	10,000
MS 39B	Outdoor Living Area	25,000
MS 39C	Outdoor Living Area	35,000
MS 39D	Outdoor Living Area	50,000
MS 39E	Outdoor Living Area	75,000
MS 40	Tennis Court-Inc Ltg/Fenc	5.00
MS 41	Pers Prop Mobile Home	PP
MS 42	Attached Deck	10.00
MS 43	Mobile Home Hookup	Price
MS 4301	Mobile Home Hookup	4,300
MS 4302	Mobile Home Hookup	4,500

Outbuilding Codes		
Type/Code	Description	Rate
MS 4303	Mobile Home Hookup	4,700
MS 4304	Mobile Home Hookup	4,900
MS 4305	Mobile Home Hookup	5,200
MS 4306	Mobile Home Hookup	5,500
MS 4307	Mobile Home Hookup	5,700
MS 4308	Mobile Home Hookup	5,900
MS 4309	Mobile Home Hookup	6,100
MS 4310	Mobile Home Hookup	7,000
MS 44	Mobile Home Attachment	20.00
MS 4401	Mobile Home Attachment	6.00
MS 4402	Mobile Home Attachment	10.00
MS 45	Camper Sites	3,000
MS 4501	Camper Sites	3,400
MS 4502	Camper Sites	4,000
MS 4503	Camper Sites	4,400
MS 46	Dwelling	Price
MS 47	Land Improvement	7,500
MS 47A	Commercial Well	500
MS 47B	Residential Well	4,500
MS 47C	Septic Easement-Res	7,500
MS 4701	Septic Only	3,000
MS 48	Misc Dwelling Attachment	10.00
MS 49	Pier/Float/Plank	25.00
MS 49A	Pier/Float/Plank	25.00
MS 50	Boat House/Shelter	36.00
MS 51	Reservoir	Price
MS 5101R	Reservoir	1.10
MS 5102	Reservoir	0.20
MS 52	Bleachers	Price
MS 5201	Bleachers	20.00
MS 53	Booth	40.00
MS 54	Field House	Price
MS 5401	Field House	10.00
MS 5402	Field House	40.00
MS 55	Tank	0.65
MS 56	Service Station Canopy	26.00
MS 57	Dock	17.00
MS 58	Guard House	200.00

Outbuilding Codes		
Type/Code	Description	Rate
MS 59	Lighting-single	1,100
MS 5901	Lighting-Double	2,100
MS 5902	Lighting-Triple	3,000
MS 5903	Lighting-Quad	3,900
MS 61	Self Service Booth	Price
MS 62	Golf Course-Kannapolis CC	138,500
MS 6201	Golf Course-Corbin Hills	53,000
MS 6202	Golf Course-McCanless	47,000
MS 6203	Golf Course-Rolling Hills	45,000
MS 6204	Golf Course-Foxwood	35,000
MS 6205	Golf Course-Minimum Pub	30,000
MS 6206	Golf Course-The Crescent	105,000
MS 6207	Golf Course-The Warrior Golf Course-CC of	122,500
MS 6208	Salisbury	140,500
MS 6209	Golf Practice Green	50,000
MS 6210	Golf Driving Range	60,000
MS 6211	Golf Course-Irish Creek	200,000
MS 63	Asphalt Paving	2.00
MS 6301	Impervious Asphalt	4.00
MS 64	Concrete Paving	3.75
MS 65	Parking Deck Per Space	11,000
MS 66	Railroad Siding	1.00
MS 67	Special Purpose Building	Price
MS 6701	Special Purpose Building	25.00
MS 6702	Special Purpose Building	Price
MS 6703	Special Purpose Building	114.00
MS 6704	Special Purpose Building	15.00
MS 6705	Special Purpose Building	38.00
MS 6706	Special Purpose Building	75.00
MS 6707	Spec Purpose/Fin Interior	30.00
MS 68	Industrial Stack	Price
MS 6801	Industrial Stack	25.00
MS 69	Mini Warehouse	4.00
MS 70	Airplane Hanger Bldg	12.00
MS 7001	Airplane Hanger Bldg	20.00
MS 7002	Airplane Hanger Bldg	30.00
MS 71	Addn to Existing Structure	Price
MS 72	Overhead Door	16.00

Outbuilding Codes		
Type/Code	Description	Rate
MS 7201	Overhead Door	22.50
MS 80	Grave Sites	500
MS 81	Crypts/Niches	5,500
MS 82	Cremation Building	57.00
MS 83	Edifices	1.00
MS 84	Misc Improvements	Price
MS 85	Mobile Classrooms	1.00
MS 99	Misc Storage Building	Price
MS 9901	Brownsfield Base Value	Price

RESIDENTIAL MAJOR IMPROVEMENT
DEPRECIATION CODES
and
MISCELLANEOUS IMPROVEMENT
DEPRECIATION TABLES

Marshall Valuation Service discusses the concept of depreciation as it relates to all types of structures. The definitions below are taken from the Marshall & Swift Residential Cost Handbook¹⁶. Furthermore, Marshall Valuation Service is recognized as a leader in the residential, commercial and industrial cost industry; and is used as a basis for most all types of properties in Rowan County.

Definitions

Depreciation is loss in value due to any cause. It is the difference between the market value of a structural improvement or piece of equipment and its reproduction or replacement cost as of the date of valuation. Depreciation is divided into three general categories, see below. If you properly consider all the pertinent factors, you should be able to reliably estimate depreciation.

Physical Depreciation is loss in value due to physical deterioration.

Physical Deterioration is the wearing out of the improvement through the combination of wear and tear of use, the effects of the aging process and physical decay, action of the elements, structural defects, etc.

Curable physical deterioration is generally associated with individual short-lived items such as paint, floor and roof covers, hot-water heaters, etc. requiring periodic replacement or renewal, or modification continuously over the normal life span of the improvement.

Incurable physical deterioration is generally associated with the residual group of long-lived items such as floor and roof structures, mechanical supply systems, foundations, etc. Such basic structural items are not normally replaced in a typical maintenance program and are usually incurable except through major reconstruction. The distinction here is whether or not such corrections would be justified, economically and/or practically, in view of the cost, time and value gain involved. Exceptions might be historical or landmark buildings or a component that threatens the integrity of the structure itself.

Functional Obsolescence is the perceived market reaction to under- or over-improvements in the utility or desirability of part or all of the improvement. This is divided into: *adequacies or deficiencies* and *superadequacies or excesses*. Again, the test as to when an item is curable or incurable is whether the capitalized gain or value added by correcting the obsolescence by replacement, remodel, addition or removal, is equal to or greater than the cost to cure as indicated in the market.

Inadequacies are some kind of building deficiency that does not meet current market expectations. Inadequate fixtures or ceiling insulation may be curable while a poor floor plan or tandem rooms may be incurable.

Superadequacies are those unwanted items which do not add value at least equal to their cost, notably special- or singular-purpose features for a particular user. Many

¹⁶ Marshall & Swift/Boeckh LLC, June 2018 pp E1-7 – www.corelogic.com/marshallswift

super adequacies are incurable except where excess operating costs might make it economical to remove or replace the item.

When considering the extent of functional obsolescence, pay particular attention to the following indicators:

1. Design characteristics
2. Physical layout
3. Mechanical equipment
4. Site Assessment

Some of the external factors affecting the extent of functional obsolescence are:

5. Code Requirements
6. Fire Protection Requirements
7. Handicapped Requirements
8. Environmental
9. Weather extremes

External Obsolescence is a change in the value of a property, usually negative but can be an enhancement, caused by forces outside the property itself, and is not included in the depreciation tables. The type of property being evaluated, whether residential or commercial, will be impacted differently by these external forces. For example, it is desirable or advantageous for a manufacturing plant to be situated close to a railroad spur; conversely, it is a disadvantage for a residential property to be located close to that same spur. External obsolescence can be measured by market abstraction and capitalization of the imputed loss or gain to the improvements and the land.

When considering the extent of external obsolescence, pay particular attention to the following indicators in the immediate vicinity, marketing area or community as a whole:

1. Physical factors. Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, etc.
2. Infrastructure. Highest and best use, quality, availability and source of utilities, public services, fire stations, staffed or volunteer, distance from hydrants, street improvements, traffic patterns, public transportation and shipping facilities, parking, retail, recreation, educational facilities, etc.
3. Economic. Demand/supply imbalance, saturation or monopoly, competition or alternatives, market share, industry or major plant relocation, employment development and growth patterns, availability of funds or terms, labor and materials, interest rates, vacancy, building rates, general inflation or deflation rates, length of time on market or lease up or absorption, zoning, land use, legal nonconformity, permit, taxing and assessment policies and bureaucracy or other limiting conditions or restrictions.

Effective Age of a property is its age as compared with other properties performing like functions. It is the actual age less the age which has been taken off by face-lifting, structural reconstruction, removal of functional inadequacies, modernization of equipment, etc. It is an age which reflects a true remaining life for the property,

taking into account the typical life expectancy of buildings or equipment of its class and its usage. It is a matter of judgment, taking all factors, current and those anticipated in the immediate future, into consideration. Determination of effective age on older structures may best be calculated by establishing a remaining life which, subtracted from a typical life expectancy will result in an appropriate effective age with which to work. Effective age can fluctuate year by year or remain somewhat stable in the absence of any major renewals or excessive deterioration.

Extended Life Expectancy is the increased life expectancy due to seasoning and proven ability to exist. Just as a person will have a total normal life expectancy at birth which increases as he grows older, so it is with structures and equipment.

Remaining Life is the normal remaining life expectation. It is the length of time the structure may be expected to continue to perform its function economically at the date of the appraisal. This does not imply a straight-line expiration, particularly for mortgage purposes, since normal recurring maintenance and renewal of replaceable items will continue to contribute toward an extended life expectancy. This extended life process is accomplished by use of effective age as the sliding scale and not by continually lengthening the typical life expectancy as the structure ages chronologically.

Percent Good equals 100% less the percentage of cost represented by depreciation. It is the present value of the structure or equipment at the time of appraisal, divided by its replacement cost.

These terms are used by appraisers to represent a physical condition of improvements, regardless of the actual age or date originally built. The physical life of most structures can be extended indefinitely if proper maintenance is applied when needed and short-lived components are replaced as necessary. This extended life cycle is well supported by the great number of existing homes today that were constructed well before the 1930's and 1940's. Re-sales of these same properties tend to validate this extended life theory after analyzing sales prices compared with more recent construction.

Based on the foregoing discussion and in keeping with the appraisal industry standards, the following depreciation tables are based on the effective age of structures being valued and not the actual or chronological age. Depreciation tables for classes of structures, including single-family, commercial, industrial, etc. will be based only on effective year built.

Residential Major Improvement
Depreciation Tables Based on Grade

Year	Age	A Grade	B Grade	C Grade	All D Grade but	D-10 & All E	DW as
		D0	D1	D2	not D-10	Grade & DW	Leasehold
		% Off	% Off	% Off	% Off	% Off	% Off
2018-							
19	1	1	1	1	5	5	3
2017	2	1	3	3.5	9	9.5	6
2016	3	1	5	6	13	14	9
2015	4	3.3	5	6	17	18.5	12
2014	5	3.3	6.5	8	18.75	20.5	15
2013	6	3.3	8	10	20.5	22.5	15
2012	7	4.4	9.5	12	22.25	24.5	17
2011	8	5.5	11	14	24	26.5	19
2010	9	6.6	12.5	14	25.75	28.5	21
2009	10	7.7	14	16	27.5	30.5	23
2008	11	8.9	15.5	18	29.25	32.5	25
2007	12	10	17	20	31	34.5	27
2006	13	11.1	18.5	22	32.5	36.1	29
2005	14	12.2	20	24	34	37.1	31
2004	15	13.3	21.5	26	35.5	39.3	33
2003	16	14.4	23	28	37	40.9	34
2002	17	15.9	24.5	30	38.5	42.5	35
2001	18	17.4	26	32	40	44.1	36
2000	19	18.9	27.5	34	41.5	45.7	37
1999	20	20.4	28.7	36	43	47.3	38
1998	21	21.9	29.9	37.5	44.5	48.9	39
1997	22	23.4	31.1	39	46	50.5	40
1996	23	24.9	32.3	40.5	47.2	51.8	41
1995	24	26.4	33.5	42	48.4	53.1	42
1994	25	27.9	34.7	43.5	49.6	54.4	43
1993	26	29.4	35.9	45	50.8	55.7	44
1992	27	30.9	37.1	46.5	51	57	45
1991	28	32.4	38.3	48	52.2	58.3	46
1990	29	33.9	39.5	49.5	53.4	59.6	47

Year	Age	A Grade	B Grade	C Grade	All D Grade but	D-10 & All E	DW as
		D0	D1	D2	not D-10	Grade & DW	Leasehold
		% Off	% Off	% Off	% Off	% Off	% Off
1989	30	35	40.7	50.5	54.6	60.9	48
1988	31	43	41.9	51.5	55.8	62.2	50
1987	32	44	43.1	52.5	57	63.5	52
1986	33	45	44.3	53.5	58	64.6	54
1985	34	46	45.5	55	59	65.7	56
1984	35	47	46.7	56	60	66.8	58
1983	36	48	47.9	57	61	67.9	60
1982	37	49	49.1	58	62	69	62
1981	38	50	50.3	59	63	70	64
1980	39	51	51.5	60	64	71	66
1979	40	52	52.7	61	65	72	66
1978	41	53	53.9	62	66	73	68
1977	42	54	55.1	63	67	74	68
1976	43	55	56.3	64	68	75	70
1975	44	56	57.5	65	69	76	70
1974	45	57	58.7	66	70	77	72
1973	46	58	59.9	67	71	78	72
1972	47	59	61.1	68	72	79	74
1971	48	60	62.3	69	73	80	74
1970	49	61	63.5	70	74	81	76
1969	50	62	64.5	71	75	82	76
1968	51	63	65.5	72	76	83	78
1967	52	64	66.5	73	77	84	80
1966	53	65	67.5	74	78	85	80
1965	54	66	68.5	75	79	85	80
1964	55	67	69.5	76	80	85	80
1963	56	68	70.5	77	80	85	80
1962	57	69	71.5	77.5	80	85	80
1961	58	70	72.5	77.5	80	85	80

Year	Age	A Grade D0	B Grade D1	C Grade D2	All D Grade but not D-10 D3	D-10 & All E Grade & DW D4	DW as Leasehold D5
		% Off	% Off	% Off	% Off	% Off	% Off
1960	59	70	75	77.5	80	85	80
1959	60	70	75	77.5	80	85	80
1958	61	70	75	77.5	80	85	80
1957	62	70	75	77.5	80	85	80
1956	63	70	75	77.5	80	85	80
1955	64	70	75	77.5	80	85	80
1954	65	70	75	77.5	80	85	80
1953	66	70	75	77.5	80	85	80
1952	67	70	75	77.5	80	85	80
1951	68	70	75	77.5	80	85	80
1950	69	70	75	77.5	80	85	80
1949	70	70	75	77.5	80	85	80
1948	71	70	75	77.5	80	85	80
1947	72	70	75	77.5	80	85	80
1946	73	70	75	77.5	80	85	80
1945	74	70	75	77.5	80	85	80
1944	75	70	75	77.5	80	85	80
1943	76	70	75	77.5	80	85	80
1942	77	70	75	77.5	80	85	80
1941	78	70	75	77.5	80	85	80
1940	79	70	75	77.5	80	85	80
1939	80	70	75	77.5	80	85	80
1938	81	70	75	77.5	80	85	80
1937	82	70	75	77.5	80	85	80
1936	83	70	75	77.5	80	85	80
1935	84	70	75	77.5	80	85	80
1934	85	70	75	77.5	80	85	80
1933	86	70	75	77.5	80	85	80
1932	87	70	75	77.5	80	85	80
1931	88	70	75	77.5	80	85	80
1930	89	70	75	77.5	80	85	80
1929	90	70	75	77.5	80	85	80
1928	91	70	75	77.5	80	85	80
9999		70	75	77.5	80	85	80

Miscellaneous Improvement Depreciation Tables
Based on Age Life

Depreciation Tables Based on Age Life
Age Life - 15 Years
Code-01

Qty	Adj %
1	8
2	14
3	20
4	26
5	32
6	34
7	36
8	38
9	40
10	42
11	44
12	46
13	48
14	50
15	52
Max	75

Depreciation Tables Based on Age Life
Age Life - 25 Years
Code-02

Qty	Adj %	Qty	Adj %
1	4	17	56
2	8	18	59
3	12	19	62
4	16	20	65
5	20	21	68
6	23	22	71
7	26	23	74
8	29	24	75
9	32	25	75
10	35	26	75
11	38	27	75
12	41	28	75
13	44	29	80
14	47	30	80
15	50	Max	80
16	53		

Depreciation Tables Based on Age Life Age Life - 40 Years Code-03			
Qty	Adj %	Qty	Adj %
1	2.5	21	41
2	5	22	42
3	7.5	23	43
4	10	24	44
5	12	25	45
6	14	26	46
7	16	27	47
8	18	28	48
9	20	29	49
10	22	30	50
11	24	31	52
12	26	32	54
13	28	33	56
14	30	34	58
15	32	35	60
16	38.5	36	63
17	35	37	66
18	36	38	69
19	38	39	72
20	39.5	Max	80

Depreciation Tables Based on Age Life Age Life - 15 Years - Swimming Pools Code-04	
Qty	Adj %
1	10
2	20
3	26
4	32
5	38
6	44
7	50
8	55
9	60
10	65
11	70
12	75
13	80
14	85
15	90
Max	90

Depreciation Code 'D' is an override depreciation based on Appraiser's judgment.
 Depreciation Code 'DX' generates no depreciation and uses the base rate for items such as mobile home park sites.

LAND APPRAISAL PROCEDURES

I. LAND VALUATION

The primary objective in appraising land in Rowan County is to estimate its true market value, as of a specific date. As a result of each land parcel being appraised at true market value, fairness and equity will be achieved.

Prior to beginning the appraisal process, a description of each parcel must be captured for use in the appraisal process. This information is available from tax office records as well as in recorded deeds. These descriptions are used in determining the best unit of comparison in assigning land values.

Units of comparison used in this revaluation could be, but are not limited to, the following: lots, sites, tracts, and acres. A further breakdown of these units of comparison to be used is: lots, building sites, site valued/priced parcels, front foot, square foot, and acres.

A suitable unit of comparison for land will be selected according to location, size, and current use of the subject property and will usually be shown as either front footage, square footage, acreage, lot or site value.

Unit front foot rates have been established after careful examination of available market data. A unit front foot rate will be based on one foot of frontage times the total length of front footage plus a depth factor equal to the average established in the community. The rate for parcels either longer or shorter than this average will be adjusted from the depth tables located in this manual. Excessive frontage factor (XF) is calculated based on an average parcel frontage in its neighborhood.

For parcels where no front footage, square footage, or acreage is provided and sizes cannot be determined, the appraiser will then use his or her best judgment in affixing a site value to these lots.

	Land Rate Types	
AC	Acres	
FF	Front Foot	
LT	Lots	
SF	Square Foot	
LU	Present-Use	

Rural and Urban Rates Per Front Foot

Poor	\$ 5	to	\$ 75
Fair	\$ 20	to	\$ 200
Average	\$ 40	to	\$ 350
Good	\$ 75	to	\$ 450
Excellent	\$ 100	to	\$ 1,200
Resort	\$ 150	to	\$ 4,000

Residual Acreage Rates (Non-building Site)*

Poor	\$ 1,000	to	\$ 10,000
Fair	\$ 4,000	to	\$ 24,000
Average	\$ 8,000	to	\$ 48,000
Good	\$15,000	to	\$ 88,000
Excellent	\$20,000	to	\$225,000
Resort	\$30,000	to	\$750,000

Building Site and Residual Lot Rates

Poor	\$ 1,000	to	\$ 10,000
Fair	\$ 4,000	to	\$ 60,000
Average	\$ 8,000	to	\$125,000
Good	\$15,000	to	\$225,000
Excellent	\$20,000	to	\$350,000
Resort	\$30,000	to	\$750,000

*Note: Residual acreage rates as shown above refers to a "net per acre" price after any adjustments are given.

Building site rates refer to a 'net per acre' rate and residual lot values refer to a per lot value.

Corner influence value as relates to residential property has no more significant influence than the mid-block location. At various times in past appraisal practices, corner lots would enhance the value of a particular lot due to access, use, etc. However, on today's market, the typical buyer appears to seek the privacy of a mid-block (interior) lot.

Corner influence value in commercial appraisals represents the additional value in land attributable to the use of corner lots over and above the value of land otherwise comparable interior lot. The individual merits of each corner location will dictate the amount of corner influence value. The architectural style of the improvement, the type of occupancy, the extent of side street accessibility to main operating floors, the patterns of vehicular and pedestrian traffic, and size and type of side street store fronts and window displays are some of the factors which are to be considered in making an appraisal of some specific corner properties.

The appraiser must use his own judgment in determining the actual accumulated affect upon a particular corner lot by considering the above factors. The range of this affect will fall between 0% and 100%, but seldom reaching either extreme.

Rear and side alley influence is determined in basically the same manner as the corner influence value. It allows for accessibility to the store from different entrances and allows for convenience through off-street parking and access.

II. COMMERCIAL – INDUSTRIAL LAND SCHEDULE

<u>Commercial</u>	<u>Front Foot</u>	<u>Square Foot</u>	<u>Acreage</u>
Poor	\$ 10 to \$ 225	\$.05 to \$ 2.25	\$ 2,000 to \$ 55,000
Fair	\$ 60 to \$ 600	\$.25 to \$ 5.70	\$11,000 to \$ 115,000
Average	\$100 to \$1,200	\$.50 to \$ 7.50	\$22,000 to \$ 300,000
Good	\$150 to \$2,000	\$.70 to \$15.00	\$31,000 to \$ 750,000
Excellent	\$250 to \$5,000	\$1.20 to \$30.00	\$52,500 to \$1,500,000

Industrial

	<u>Front Foot</u>	<u>Square Foot</u>	<u>Acreage</u>
Poor	\$10 to \$ 75	\$.05 to \$.35	\$ 2,000 to \$ 15,000
Fair	\$ 20 to \$ 90	\$.10 to \$.40	\$ 4,400 to \$ 17,500
Average	\$ 35 to \$ 200	\$.15 to \$.90	\$ 6,500 to \$ 39,000
Good	\$ 60 to \$ 500	\$.27 to \$2.25	\$12,000 to \$100,000
Excellent	\$ 90 to \$ 700	\$.40 to \$3.10	\$17,500 to \$150,000

Note: When appraising rural commercials, the appraiser may elect to use the rural land pricing schedule in lieu of a front foot price.

III. VALUATION of RURAL and ACREAGE PROPERTIES

Recent sales of rural and acreage properties within the community will be used to determine average prices for the various neighborhoods or areas of the county. These sales will be verified for accuracy. They will then be analyzed to determine how much affect the various physical, social, and economic characteristics of each property have on the overall sales price. After this work has been completed, these sales will form the basis for establishing base prices throughout the community.

IV. FACTORS DETERMINING BASE ACREAGE RATES for ROWAN COUNTY

A. LOCATION OF PROPERTY

1. Relation of tract to rural farming areas, urban or commercial and industrial development areas.
2. Proximity and access to recreational areas.
3. Accessibility of roads and highways.
4. Proximity to cities and towns or known growth areas.
5. Overall desirability.
6. Local zoning ordinances.
7. Availability of water power and water privileges.

B. LAND CHARACTERISTICS

1. Physical characteristics
 - a. Remaining acreage
 - b. Special purpose land (building site, right-of-way, etc.)
 - c. Quality of soil
 - d. Mineral, quarry, or other valuable deposits.

2. Economic characteristics
 - a. past income
 - b. probable future income

C. SIZE AND SHAPE OF TRACT

1. Small tracts - 0.01 to 20.0 acres
2. Medium tracts - 20.01 to 50.0 acres
3. Large tracts - 50.01 acres and above

D. MARKET VALUES

1. Arms-length sales of comparable properties.
2. Highest and best use.
3. Supply and demand.

E. SCHEDULE OF VALUES - URBAN OR DEVELOPMENT AREAS:

1. Small tracts, out from towns with good roads within an average development area: \$200 to \$50,000 average base rate.
2. Medium tracts, out from town with good roads within an average development area: \$100 to \$40,000 average base rate.
3. Large tracts, out from town and major highways, within an average development area: \$100 to \$35,000 average base rate.
4. Small tracts, near town and major highways with a good development area: \$300 to \$150,000 average base rate.
5. Medium tracts, near town and major highways with a good development area: \$200 to \$125,000 average base rate.
6. Large tracts, near town and major highways, with a good development area: \$100 to \$110,000 average base rate.

F. SCHEDULE OF VALUES - RURAL FARMING OR LOW DEVELOPMENT AREA:

1. Small tracts, no relative convenience to towns, few roads, minimum or no development, farm or woodland, poor to good soil quality: \$250 to \$40,000 average base rate.
2. Medium tracts, no relative convenience to towns, few roads, minimum or no development, farm or woodland, poor to good soil quality: \$200 to \$30,000 average base rate.
3. Large tracts, no relative convenience to towns, few roads, minimum or no development, farm or woodland, poor to good soil quality: \$200 to \$25,000 average base rate.
4. Small tracts, no relative convenience to towns, average roads, minimum or little development, farm or woodland, poor to good soil quality: \$250 to \$30,000 average base rate.
5. Medium tracts, no relative convenience to towns, average roads, minimum or little development, farm or woodland, poor to good soil quality: \$200 to \$25,000 average base rate.
6. Large tracts, no relative convenience to towns, average roads, minimum or little development, farm or woodland, poor to good soil quality: \$200 to \$20,000 average base rate.
7. Small tracts, near town with adequate roads, some development, farm or woodland, poor to good soil quality: \$250 to \$50,000 average base rate.

- 8. Medium tracts, near town with adequate roads, some development, farm or woodland, poor to good soil quality: \$200 to \$40,000 average base rate.
- 9. Large tracts, near town with adequate roads, some development, farm or woodland, poor to good soil quality: \$200 to \$30,000 average base rate.

G. SCHEDULE OF VALUES - PONDS AND LAKES - CLASSIFIED AS REMAINING ACRES:

- 1. Individual appraiser's discretion will be used to determine the usefulness and desirability for all ponds and lakes and then make whatever adjustments, if any, to the average acreage price.

H. SCHEDULE OF VALUES - EASEMENTS AND RIGHT-OF-WAY CONSIDERATIONS:

- 1. Individual appraiser's discretion will be used when determining damages resulting from the taking of property to be used as "right-of-ways" and "easements." The appraiser must attempt to recognize, at least, the most obvious limitations of uses to which the property may be adapted, and then make whatever adjustments, if any, to the average acreage price.

I. SCHEDULE OF VALUES - ALL OTHER FACTORS INDICATING VALUE:

- 1. When making value estimates based on all factors contained in this section, the appraiser will use his best judgment to determine any adjustments that may be made to area base rates.

V. TYPES OF LAND ADJUSTMENTS

The foregoing base land rates may be adjusted positively or negatively by factors affecting real estate value. Some types of conditions that would form the basis for adjustments to land are: tract size, road frontage, topography, rights-of-way, accessibility, shape, and percolation ability, just to mention a few. If additional factors affecting land value are determined, they will be recognized in the appraisal process. While tract size, road front footage, type of road surface and property access adjustments are typically table driven, other adjustments need to be assigned based on individual parcels.

Table-driven land adjustments, such as tract size, road frontage, depth, excessive road frontage, access (location), etc. are shown below:

Location Adjustment Table			
Code	Description	Code	Adj - % Good
AP	Acres-Public Rd	4	100
AD	Acres-Public Unpaved Rd	3	85
AN	Acres-Right-of-Way (ROW)	2	85
AR	Acres-No Established ROW	1	60
BP	Bldg Site - Paved Rd	4	100
BD	Bldg Site - Unpaved Rd	3	90

BN	Bldg Site - Private ROW	2	90
BR	Bldg Site-No Estab ROW	1	60
FP	Front Foot-Paved Road	4	100
FD	Front Foot-Unpaved Rd	3	80
FN	Front Foot-Private ROW	2	80
FR	Front Foot-No Estab ROW	1	60
LP	Lot Price - Paved Road	4	100
LD	Lot Price - Unpaved Road	3	85
LN	Lot Price - Established ROW	2	85
LR	Lot Price - No Estab ROW	1	60
SP	Square Foot-Paved Road	4	100
SD	Square Foot-Unpaved Road	3	90
SN	Square Foot-Established ROW	2	90
SR	Square Foot-No Estab ROW	1	60
99	Special - No Location Adj		100

Land Pricing – Front Foot Depth Adjustment Factors

Front Foot - Depth Adjustment Factors					
Code - DP					
Qty	Adj %	Qty	Adj %	Qty	Adj %
5	8	105	84	210	111
10	15	110	86	220	112
15	22	115	88	230	113
20	28	120	90	240	114
25	34	125	92	250	115
30	39	130	94	260	116
35	43	135	96	270	116
40	48	140	98	280	117
45	52	145	100	290	117
50	56	150	101	300	118
55	59	155	102	320	119
60	62	160	103	340	120
65	65	165	104	360	121
70	68	170	104	380	122
75	70	175	105	400	123
80	72	180	106	999999	124
85	75	185	107	Max	124
90	78	190	108		
95	80	195	109		
100	82	200	110		

Front Foot Pricing Cont'd.

Front Foot - Excessive Frontage Factors					
Code - XF					
Qty	Adj %	Qty	Adj %	Qty	Adj %
1	100	135	90	350	67
75	100	140	88	375	65.5
80	100	150	86	400	64
85	100	160	84	450	63
90	100	170	82	500	62
95	100	180	80	600	61
100	100	190	78	999999	60
105	98.5	200	76		
110	97	225	74.5		
115	95.5	250	73		
120	94	275	71.5		
125	92.5	300	70		
130	91	325	68.5		

Lot Pricing - Code UD - Undeveloped Adjustment is .85 remaining good.

Acreage Size & Access Adjustment Factors
Codes SA thru SR

Acreage – Size & Access Adjustment Factors for Nonbuilding Site								
Code - SA - Paved Road								
Qty		Adj %	Qty		Adj %	Qty		Adj %
From	To		From	To		From	To	
0.001	0.139	100	10.000	10.499	105	70.000	74.999	88.000
0.140	0.499	165	10.500	13.499	100	75.000	79.999	87.000
0.500	0.749	160	13.500	16.499	99	80.000	84.999	86.000
0.750	0.999	155	16.500	19.999	98	85.000	89.999	85.000
1.000	1.999	150	20.000	23.999	97	90.000	99.999	84.000
2.000	2.999	145	24.000	28.999	96	100.000	119.999	83.000
3.000	3.999	140	29.000	34.999	95	120.000	139.999	82.000
4.000	4.999	135	35.000	37.999	94	140.000	159.999	81.000
5.000	5.999	130	38.000	40.999	93	160.000	189.999	80.000
6.000	6.999	125	41.000	46.999	92	190.000	219.999	79.000
7.000	7.999	120	47.000	54.999	91	220.000	259.999	78.000
8.000	8.999	115	55.000	64.999	90	260.000	299.999	77.000
9.000	9.999	110	65.000	69.999	89	300.000	399.999	76.000
						400.000	999.999	75.000
						1,000.000	9,999.999	75.000

Acreage Land Pricing – Cont’d.

Acreage – Size & Access Adjustment Factors for Nonbuilding Site						Code SD - Dirt road		
Qty		Adj %	Qty		Adj %	Qty		Adj %
From	To		From	To		From	To	
0.001	0.139	100	10.000	10.499	105	70.000	74.999	88.000
0.140	0.499	165	10.500	13.499	100	75.000	79.999	87.000
0.500	0.749	160	13.500	16.499	99	80.000	84.999	86.000
0.750	0.999	155	16.500	19.999	98	85.000	89.999	85.000
1.000	1.999	150	20.000	23.999	97	90.000	99.999	84.000
2.000	2.999	145	24.000	28.999	96	100.000	119.999	83.000
3.000	3.999	140	29.000	34.999	95	120.000	139.999	82.000
4.000	4.999	135	35.000	37.999	94	140.000	159.999	81.000
5.000	5.999	130	38.000	40.999	93	160.000	189.999	80.000
6.000	6.999	125	41.000	46.999	92	190.000	219.999	79.000
7.000	7.999	120	47.000	54.999	91	220.000	259.999	78.000
8.000	8.999	115	55.000	64.999	90	260.000	299.999	77.000
9.000	9.999	110	65.000	69.999	89	300.000	399.999	76.000
						400.000	999.999	75.000
						1,000.000	9,999.999	75.000

Acreage Land Pricing – Cont’d.

Acreage – Size & Access Adjustment Factors for Nonbuilding Site Code - SN - Right-of-Way Access								
Qty		Adj %	Qty		Adj %	Qty		Adj %
From	To		From	To		From	To	
0.001	0.139	100	10.000	10.499	105	70.000	74.999	88.000
0.140	0.499	165	10.500	13.499	100	75.000	79.999	87.000
0.500	0.749	160	13.500	16.499	99	80.000	84.999	86.000
0.750	0.999	155	16.500	19.999	98	85.000	89.999	85.000
1.000	1.999	150	20.000	23.999	97	90.000	99.999	84.000
2.000	2.999	145	24.000	28.999	96	100.000	119.999	83.000
3.000	3.999	140	29.000	34.999	95	120.000	139.999	82.000
4.000	4.999	135	35.000	37.999	94	140.000	159.999	81.000
5.000	5.999	130	38.000	40.999	93	160.000	189.999	80.000
6.000	6.999	125	41.000	46.999	92	190.000	219.999	79.000
7.000	7.999	120	47.000	54.999	91	220.000	259.999	78.000
8.000	8.999	115	55.000	64.999	90	260.000	299.999	77.000
9.000	9.999	110	65.000	69.999	89	300.000	399.999	76.000
						400.000	999.999	75.000
						1,000.000	9,999.999	75.000

Acreage Land Pricing – Cont’d.

Acreage – Size & Access Adjustment Factors for Nonbuilding Site Code - SR - No Stated Right-of-Way Access								
Qty		Adj %	Qty		Adj %	Qty		Adj %
From	To		From	To		From	To	
0.001	0.139	100	10.000	10.499	105	70.000	74.999	88.000
0.140	0.499	165	10.500	13.499	100	75.000	79.999	87.000
0.500	0.749	160	13.500	16.499	99	80.000	84.999	86.000
0.750	0.999	155	16.500	19.999	98	85.000	89.999	85.000
1.000	1.999	150	20.000	23.999	97	90.000	99.999	84.000
2.000	2.999	145	24.000	28.999	96	100.000	119.999	83.000
3.000	3.999	140	29.000	34.999	95	120.000	139.999	82.000
4.000	4.999	135	35.000	37.999	94	140.000	159.999	81.000
5.000	5.999	130	38.000	40.999	93	160.000	189.999	80.000
6.000	6.999	125	41.000	46.999	92	190.000	219.999	79.000
7.000	7.999	120	47.000	54.999	91	220.000	259.999	78.000
8.000	8.999	115	55.000	64.999	90	260.000	299.999	77.000
9.000	9.999	110	65.000	69.999	89	300.000	399.999	76.000
						400.000	999.999	75.000
						1,000.000	9,999.999	75.000

Building Site Small Acreage Adjustment Tables

Code - BSA - Paved Road							
Qty	Adj %	Qty	Adj %	Qty	Adj %	Qty	Adj %
0.001	400	0.360	210	0.620	139	0.880	109
0.100	400	0.380	200	0.640	136	0.900	107
0.140	380	0.400	190	0.660	133	0.920	105
0.160	350	0.420	180	0.680	130	0.940	103
0.180	325	0.440	172	0.700	128	0.950	103
0.200	300	0.460	168	0.720	126	0.960	102
0.220	290	0.480	164	0.740	123	0.970	102
0.240	270	0.500	160	0.760	121	0.980	101
0.260	260	0.520	156	0.780	118	0.990	101
0.280	250	0.540	152	0.800	116	1.000	100
0.300	240	0.560	148	0.820	114	50.000	100
0.320	230	0.580	145	0.840	112		
0.340	220	0.600	142	0.860	111		

Code - BSD - Dirt Road							
Qty	Adj %	Qty	Adj %	Qty	Adj %	Qty	Adj %
0.001	350	0.360	196	0.620	129	0.880	102
0.100	350	0.380	186	0.640	126	0.900	100
0.140	350	0.400	176	0.660	123	0.920	99
0.160	325	0.420	166	0.680	120	0.940	97
0.180	305	0.440	158	0.700	118	0.960	96
0.200	276	0.460	154	0.720	116	0.980	95
0.220	266	0.480	150	0.740	114	1.000	94
0.240	256	0.500	147	0.760	112	50.000	94
0.260	246	0.520	144	0.780	110		
0.280	236	0.540	141	0.800	108		
0.300	226	0.560	138	0.820	106		
0.320	216	0.580	135	0.840	105		
0.340	206	0.600	132	0.860	103		

Building Site Small Acreage Cont'd.

Code - BSN - Right-of-Way							
Qty	Adj %	Qty	Adj %	Qty	Adj %	Qty	Adj %
0.001	330	0.360	184	0.620	123	0.880	100
0.100	330	0.380	174	0.640	120	0.900	98
0.140	330	0.400	164	0.660	118	0.920	97
0.160	310	0.420	156	0.680	116	0.940	95
0.180	290	0.440	148	0.700	114	0.960	94
0.200	264	0.460	144	0.720	112	0.980	93
0.220	254	0.480	140	0.740	110	1.000	92
0.240	244	0.500	137	0.760	109	50.000	92
0.260	234	0.520	134	0.780	107		
0.280	224	0.540	132	0.800	105		
0.300	214	0.560	130	0.820	103		
0.320	204	0.580	128	0.840	102		
0.340	194	0.600	126	0.860	101		

Code - BSR - No Stated Right-of-Way							
Qty	Adj %	Qty	Adj %	Qty	Adj %	Qty	Adj %
0.001	320	0.360	174	0.620	118	0.880	95
0.100	320	0.380	164	0.640	115	0.900	94
0.140	320	0.400	154	0.660	113	0.920	93
0.160	300	0.420	148	0.680	110	0.940	91
0.180	280	0.440	142	0.700	109	0.960	90
0.200	254	0.460	138	0.720	107	0.980	89
0.220	244	0.480	134	0.740	105	1.000	88
0.240	234	0.500	131	0.760	104	50.000	88
0.260	224	0.520	128	0.780	102		
0.280	212	0.540	126	0.800	100		
0.300	204	0.560	124	0.820	98		
0.320	194	0.580	122	0.840	97		
0.340	184	0.600	121	0.860	96		

Other Types of Adjustments Assigned by Appraisers:

Non-percolation adjustments will be a negative sixty percent (60%). This adjustment will be applied to parcels that have been identified as potential building sites (those priced on a front footage, lot value, or square foot basis). The adjustment does not apply to any land segment which is classified with an 'O' or 'W.' Only those land segments with a 'B' or 'U' classification that have been identified as having a higher and better use other than rural acreage will receive consideration for a non-percolation adjustment.

Topography, right-of-way, corner influence, shape, etc.: Adjustments will be assigned based on individual property characteristics.

Non-buildable or substandard Property: Adjustment for parcels that are verified by municipal or county building ordinances, restrictions or codes as being non-buildable or substandard, and the tax office has valued as though buildable or meets the municipal or county building ordinances, restrictions or codes, will receive a negative sixty percent (60%) adjustment for that portion that is non-buildable or substandard and cannot receive a permit for construction of a major improvement.

Cell Towers: Real property (land) that has been leased to (or encumbered by) a cell/broadcasting or radio tower company will be priced based on the type of tower and total amount of land typically encumbered. Minimum standard for towers is as follows: Land with a cell/broadcast tower will be priced at \$50,000 for an area that is typically a quarter of an acre (.25). Land with a radio tower will be priced at \$100,000 for an area that is typically a quarter of an acre (.25). The cell tower and associating equipment is considered business personal property and must be listed as such.

Real Property Affected by Railroad Taking; Easements, Temporary or Permanent, etc.: Rowan County is part of the North Carolina Department of Transportation (NCDOT) Rail Division's Piedmont Improvement Program (PIP) that is expanding its rail track and constructing approximately eleven miles of second track along the North Carolina Railroad (NCR) in Rowan County. Per NCDOT, a second track will allow trains to pass more frequently, reducing congestion, increasing capacity and reliability, and decreasing travel time between Raleigh and Charlotte. Additionally, the work will involve upgrading some railroad crossings and permanently closing others, extending Kimball Road from Main Street to Center Avenue, and constructing a bridge carrying the NCR tracks over Kimball Road. The project limits extend along U.S. 29 from Airport Road in Salisbury to 18th Street in Kannapolis. Our office will consider each appeal or discussion with the property owner on a case-by-case basis. Any and all written information provided to the property owner must be provided to our office in order for our staff to render any consideration or conclusion as to value. The project began 2013 and is expected to be completed by 2017.

Duke Energy Power line & Gas Pipeline Easements: Real property that is shown to have a negative affect by one or more of these easements and is priced on a per acre basis, can be adjusted to reflect a 'price per acre' of \$2,200 per acre or as deemed appropriate by staff appraiser. Proof of a negative effect must be in writing and by an expert.

100-Year Flood plain or Flood way: Rowan County's most recent FEMA maps are dated June 16, 2009. These FEMA maps provide the legal and expert authority on property that is located in a one hundred year flood way or plain. Properties that are zoned residential or rural will be priced at \$1,500 per acre. Properties that have a commercial or industrial type zoning (any zoning other than residential or rural) will be priced at fifteen thousand dollars (\$15,000) per acre or as deemed appropriate by staff appraiser. Written documentation (from zoning authorities where property is located) providing proof that property cannot be built on must be provided by property owner at time of appeal for any type zoned property.

Cemeteries are valued for the 'unsold' areas or structures by appraisal staff.

VI. LAND PRICING INSTRUCTIONS

GENERAL EXPLANATION: There are three basic classifications to consider when pricing rural land:

1. Building site
2. Residual/Undeveloped/Potential Building Site
3. Remaining Acres
 - a. Open-agricultural
 - b. Woodland
 - c. Land unsuitable for use under present conditions

PROCEDURE:

Classifications: Enter the number of acres of each class in the space provided. If the base rates are not table-driven, enter a base rate. If any adjustments are necessary, place them in the factor field.

Building Site: Tracts that have up to 1.25 total acres. For each occupied improvement, at least one acre should accompany it when used with residential or rural properties or whatever acreage is determined by the appraiser. For commercial and industrial building sites, a staff appraiser will determine the number of acres in the allowable building site.

Agricultural/Forestry: Classified as remaining acres.

Undeveloped/Residential Land: To be used for all properties as residual or undeveloped land. Generally, will be considered as road front when used with rural properties.

Non-productive: Cannot be used feasibly in an economic manner. Classified as remaining acres and assign appropriate adjustment(s), if necessary.

Land Improvement - Water and Sewer: The availability of water and sewer to an

individual parcel of land will be priced at \$7,500 (itemized as \$4,500 for the water and \$3,000 for the sewer). Singlewide manufactured homes located outside any established mobile home park will be assessed with a land improvement charge of \$7,500 which is the value of the availability of water and sewer to the site for use by the singlewide manufactured home as outlined above.

Solar Farm: Classified and valued on a case-by-case basis. Written documentation provided to property owner along with any contractual document(s) or lease agreement signed by property owner shall be provided to the tax office for their review and consideration in valuing the property.

Conservation Easements: Land that participates in a conservation easement typically through the Land Trust of North Carolina shall be priced at \$3,500 per acre. Verification of this process is the conservation easement itself having been recorded in the Rowan County Register of Deeds office and made effective for tax purposes the following January 1st.

2019 Present-Use Schedule

Woodland/Forestry \$220

This category includes all acreage other than horticultural, open or pasture.

Pasture \$530

This category includes pasture land which is currently properly fenced and is used for livestock grazing. Horses or other recreational animals will not be included in present-use program unless approved by the Tax Administration Department.

Agricultural \$600

This category includes all land used or may be conveniently used for grazing, row crops, and grass land.

Horticultural \$940

This category includes land used or best suited to horticultural use, such as tomatoes, strawberries, etc.

- Value for woodland/forestry is capitalized at nine percent (9%)¹⁷.
- Values for pasture, open and horticulture are capitalized at six and one-half percent (6.5%)¹⁸.
- 'Present-Use' building site rates will be the same as 'market value' building site rates.
- The present-use values shown on this page are weighted averages based on rental rates for all classes of land in MLRA 136 Piedmont of the 2019 Use -Value Manual for agricultural, horticulture and forestland as published by the North Carolina Department of Revenue. All land in present-use valuation will be considered by using the information shown above.
- At this time Rowan County does not have the capability to use digitized soils directly through its computer system for mass appraisal. However, if a property owner can provide a detailed soil analysis of their property to the Tax Administrator it will be considered. For those cases where detailed soils for an individual parcel are provided, the county will not use the pricing schedule outlined above, but will implement the values as outlined in the *2019 Use-Value Manual for the Agricultural, Horticultural and Forest Land*, which is the recommendation of the Use-Value Advisory Board published by the N.C. Department of Revenue (see addendum).

¹⁷ NCGS 105-277.7 of the North Carolina Machinery Act, 2017 Edition, p.73

¹⁸ NCGS 105-277.7 of the North Carolina Machinery Act, 2017 Edition, p.73

SALES UTILIZATION
And
VERIFICATION

I. INTRODUCTION

Sales collection and verification is the single most important activity in the appraiser's office. There is no other activity necessary to the appraisal process as the meticulous and regimented collection of sales data. Ultimately, all valuation approaches rely upon the analysis of valid, qualified sales in order to properly value a subject property.

North Carolina statute 105.284¹⁹ requires that all property be assessed for taxation at its true value or use value as determined under G.S. 105-283 or G.S. 105-277.6²⁰ and taxes levied by all counties and municipalities shall be levied uniformly on assessments determined in accordance with this section.

The premise of any mass appraisal system is that regardless of the appraisal approach used to value property, the analysis of properties that have sold is necessary in order to do the following:

- 1) Develop regression equations
- 2) Set cost/market base rates
- 3) Determine depreciation schedules
- 4) Determine income capitalization or discount rates

Without sales, the appraiser has to depend on the cost and income approaches to base his/her decision, therefore you need valid sales data to support the cost approach. Rowan County's property record card display of property characteristics (for structures) is based on replacement cost new less depreciation to give a depreciated value for the building plus land value for a total value of both land and building(s).

All sales data used is available from the Rowan County Register of Deeds office whether it was property that was listed for sale and sold by a realtor or properties that were for sale by owner. Any transfer of ownership (other than by will, estates, or property settlement) is recorded in the register of deeds office.

II. STEPS IN QUALIFICATION

All sales must be checked or qualified to verify that an 'arms length' transaction has taken place and that the sales price, date of sale, property information/characteristics is correct. Further analysis and determination of the rights and benefits of property ownership that were transferred and whether or not any personal property was included in the sales transaction and, if so, was any monetary value assigned to the personal property.

¹⁹ NCGS 105-284 of the Machinery Act of North Carolina, 2017 Edition, pp. 119-122

²⁰ NCGS 105-277.6 of the Machinery Act of North Carolina, 2017 Edition, p. 71

The initial step in the sales qualification process begins with the North Carolina Department of Revenue's sales ratio reports that are submitted quarterly. NCDOR sends an electronic random list of deed book and pages of documents from the register of deeds office to begin the process. A copy of the sales ratio letter mailed to property owners who have purchased property is shown below:

Rowan County Assessor's Office
402 North Main Street • Salisbury, NC 28144-4341
Telephone 704-216-8586 FAX 704-642 2050

July 15, 2014

Name _____
Address _____
City, State Zip _____

Location:
Parcel ID:
Sales Date:
Deed Ref:
Stamps:

Congratulations on your recent purchase of real property. Please contact our real estate department at 704-216-8586 if you have any questions regarding your recent purchase.

In turn, we need your help. North Carolina law requires that each county conduct a sales assessment ratio study in order to measure the sales price of real property in relation to the county's assessed value. The answers to these questions are strictly confidential and not open to public inspection. Please confirm the information below and return this request within ten (10) days from the above date. We have enclosed a self-addressed envelope for your convenience.

As a result of the high volume of distressed sales, was the reason for your recent purchase due to (check one that most applies):

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Short sale (bank approved) | <input type="checkbox"/> Bankruptcy |
| <input type="checkbox"/> Foreclosure or Pre-foreclosure | <input type="checkbox"/> Estate Sale |
| <input type="checkbox"/> Auction | <input type="checkbox"/> Divorce |
| <input type="checkbox"/> Family or relative transfer | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Fair market value -- please give sales price - \$ _____ | |

1. Is this your primary residence rental other ?
2. Was the property listed for sale by realtor bank owner?
3. If for sale by owner, what was the asking price based on? _____

4. Was house in need of repair at time of purchase? If so, please describe:

5. Will you make the necessary repairs prior to selling? yes no

DEED EDIT SHEET

CODE REASONS FOR REJECTION:

- A. The transaction includes the conveyance of two (2) or more parcels.
- B. Sales for which the improvements sold are not included in the tax assessment or the assessment included improvements built after the sale.
- C. Deed shows \$6.00* or less in revenue stamps. *Transaction is for \$3,000 or less.
- D. The date the deed was made, entered or notarized is outside the dates of the study period. (The study period runs from January 1 to December 31.)
- E. The transaction is between relatives or related businesses.
- F. The grantor is only conveying an undivided or fractional interest to the grantee.
- G. The deed reserves until the grantor, a life estate or some other interest.
- H. The deed reserves unto the grantor the possession of, or lease of, the property for specified period following the sale.
- I. One or both of the parties involved in the transaction is governmental, a public utility, lending institution, or a relocation firm.
- J. The deed conveys a cemetery lot or other tax exempt property.
- K. One or both of the parties involved in the transaction is a church, school, lodge, or some other educational organization.
- M. The deed indicates that the property conveyed is situated in more than one county.
- N. The transaction is for minerals, timber, etc. or the rights to mine or cut same.
- O. The transaction includes the conveyance of personal property, and the value of such is not specified separate from the real property value in the deed.
- P. The transaction is the result of a forced sale or auction.
- Q. Transaction made by the use of a Contract for Deed, the agreement for which is executed and sale actually made prior to the study.
- R. The transaction involves the trade or exchange of real property.
- S. The transaction is for real property which cannot be clearly identified on the county tax records.
- X. Other (An explanation must be provided when this code is used).
- Z. To use when \$1 is put in the Assessed Value (for use of Access Database only).

Only those valid sales transactions as verified using the 'codes for rejection' in the current NCDOR Sales Ratio Workshop power point are used by the assessor's office in establishing values for use in the 2019 countywide reappraisal.

Commercial/Industrial Section

Introduction

The logical starting point in the appraisal of a commercial property, as with other types of properties, is the determination of the replacement cost new of its improvements. This section of the manual concerns itself with pricing techniques and the procedures for applying pricing schedules and cost tables to various types of improvements in order to arrive at an estimate of the cost of replacing them. As with many types of property, the replacement cost method of valuation is a starting point for the appraiser.

The pricing schedule and cost tables in this manual are provided to assist the appraiser in arriving at accurate and uniform appraisals. Used properly, they should prove to be an invaluable tool. Quality valuations, however, are not the product of schedules and tables themselves, but the appraiser's ability to use them effectively. For this to happen, a thorough understanding of the make-up, knowledge of the specifications from which the base prices were derived, the composition of the prices, and the proper techniques and procedures for applying the prices must be had by the appraiser. What's more important is that the appraiser must be able to exercise good common sense and sound judgment in selecting and using them.

I. Replacement Cost

Replacement cost is the current cost of reproducing an improvement of equal utility to the subject property, it may or may not be the cost of reproducing a replica of the property. This distinction being drawn is one between 'replacement' costs which refers to a substitute property of equal utility, as opposed to 'reproduction' cost which refers to a substitute replica property.

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

II. Schedules

The pricing schedules in this manual have been developed by applying unit-in-place costs to the construction of specified hypothetical or model buildings. Application of the schedules involves the selection of the model which most nearly resembles the subject building and adjusting its price to compensate for variations in size, design, construction features and components, and quality of materials and workmanship.

The format of any one particular schedule depends upon the extent to which variations between the subject building and the model building are likely to occur.

One can readily expect the variations among retail stores in general to be far more extensive than those among specific types of retail stores, such as discount stores. This gives rise to the various types of schedules included in the manual.

It should be noted that the schedules and tables in the manual have been developed to be used primarily in making mass appraisals for ad valorem – tax equalization – purposes. They have, therefore, been designed to provide the appraiser with an uncomplicated, fast and effective method of arriving at an accurate estimate of replacement costs. In order to maintain simplicity in the schedules, techniques and procedures, it is often necessary to make certain compromises from a strictly technical and engineering point of view. Extensive effort has been made in developing the schedules to minimize these compromises and limit them to variables which have minimal influence on the final value of the building. The schedules have been designed to reflect actual building costs and practices. Field tests have proven them to be both accurate and reliable and, when applied properly, highly effective in arriving at a realistic replacement cost.

III. Quality of Construction

The following descriptions correspond to the structural frame areas of the property record card.

Wood Frame buildings that are constructed of combustible materials with wood framed exterior walls which are usually load bearing. Roof structure is usually wood frame or pre-constructed trusses with wood sheathing and composition shingles, built-up or corrugated metal cover. Floor structure may be perimeter footing with reinforced concrete slab or wood joists and sheathing.

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

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

Steel/FP buildings that are constructed of steel super structure with a variety of non-bearing exterior walls including pre-case panels, steel sandwich panels, steel frame and stationary glass or masonry. Roof structure is usually steel frame with metal decking and poured concrete or concrete planks or other non-combustible construction. Floors are usually reinforced concrete slab on grade.

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

'A' *Grade* buildings generally having an outstanding architectural style and design. Constructed of excellent quality materials and workmanship throughout. High quality interior finish and mechanical features are prevalent.

'B' *Grade* buildings generally having moderate architectural treatment, constructed with good quality materials and above average workmanship throughout. Good quality interior finish and mechanical features are prevalent.

'C' *Grade* buildings generally having minimal architectural treatment, constructed with average quality materials and workmanship throughout. Average quality interior finish and standard mechanical features are prevalent.

'D' *Grade* buildings generally are void of architectural treatment, constructed with economy quality materials and fair workmanship throughout. Fair quality interior finish and low grade mechanical features are prevalent.

'E' *Grade* buildings are constructed of sub-standard materials and poor, unskilled workmanship. Poor interior finish and low grade mechanical features are prevalent.

IV. Depreciation

Basis of Depreciation for Commercial Structures. Commercial properties are depreciated on the basis of the estimated effective age as compared to the total estimated economic life. Effective age is defined in the Fifth Edition of The Dictionary of Real Estate Appraisal as:

"The age of a property that is based on the amount of observed deterioration and obsolescence it has sustained, which may be different from its chronological age. "

It differs from actual age, i.e. the year the structure was built. Estimating effective age is based on the property's condition and usefulness for its purpose. It can fluctuate from year to year or remain relatively stable depending on whether any renovations or rehabilitation is done on the improvements.

Total economic life for a particular property category is based primarily on the number of years that improvements are expected to continue to contribute value to a property as a whole.

An example of the amount of depreciation that would be applied to a structure, is a small industrial building built in 1980(actual age), with an estimated effective age of 1990. Based on an expected economic life of 40 years, the applicable depreciation would be 28 years of effective age/ 40 year economic life or 70% depreciation.

V. Definitions

Depreciation is loss in value due to any cause. It is the difference between the market value of a structural improvement or piece of equipment and its reproduction or replacement cost as of the date of valuation. Depreciation is divided into three general categories, see below.

Physical depreciation is loss in value due to physical deterioration.

- **Curable** physical deterioration is generally associated with individual short-lived items such as paint, floor and roof covers, hot-water heaters, etc. requiring periodic replacement or renewal, or modification continuously over the normal life span of the improvement.
- **Incurable** physical deterioration is generally associated with the residual group of long-lived items such as floor and roof structures, mechanical supply systems, and foundations. Such basic structural items are not normally replaced in a typical maintenance program and are usually incurable except through major reconstruction. The distinction here is whether or not such corrections would be justified, economically and/or practically, in view of the cost, time and value gain involved. Exceptions might be historical or landmark buildings or a component that threatens the structural integrity of the structure itself.

Functional obsolescence is loss in value due to causes outside the property and independent of it.

- **Inadequacies** are some kind of building deficiency(ies) that does not meet current market expectations. Inadequate fixtures or ceiling insulation may be curable while a poor floor plan or tandem rooms may be incurable.
- **Superadequacies** are those unwanted items which do not add value at least equal to their cost, notably special- or singular-purpose features for a particular user. Many superadequacies are incurable except where excess operating costs might make it economical to remove or replace the item. When considering the extent of functional obsolescence, pay particular attention to the following indicators:
 1. Design characteristics
 2. Physical layout
 3. Mechanical equipment
 4. Site Assessment

Some of the external factors affecting the extent of functional obsolescence are:

5. Code Requirements
6. Fire Protection Requirements
7. Handicapped Requirements
8. Environmental
9. Weather extremes

External Obsolescence is a change in the value of a property, usually negative but can be an enhancement, caused by forces outside the property itself, and is not included in the depreciation tables. It can be divided into two types, locational and economic. Locational factors are generally incurable and may affect only a small area, while economic factors can cover a wide geographic area and may be only temporary and reversible. Different types of property, residential or commercial, will be affected differently by these external forces. For example, it is desirable or advantageous for a manufacturing plant to be situated close to a railroad spur; conversely, it is a disadvantage for a residential property to be located close to that same spur. Close proximity to a major highway is generally much more beneficial for an apartment complex than a single-family residence, etc. Any abnormal, isolated or temporary cases of external obsolescence, usually computed separately, can be measured by market abstraction and capitalization of the imputed loss or gain, which generally affects land values first, then the improvements, by changing the possible uses and altering remaining life.

When considering the extent of external obsolescence, pay particular attention to the following indicators in the immediate vicinity, marketing area or community as a whole:

1. Physical factors. Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, etc.
2. Infrastructure. Highest and best use, quality, availability and source of utilities, public services, fire stations, staffed or volunteer, distance from hydrants, street improvements, traffic patterns, public transportation and shipping facilities, parking, retail, recreation, educational facilities, etc.
3. Economic. Demand/supply imbalance, saturation or monopoly, competition or alternatives, market share, industry or major plant relocation, employment development and growth patterns, availability of funds or terms, labor and materials, interest rates, vacancy, building rates, general inflation or deflation rates, length of time on market or lease up or absorption, zoning, land use, legal nonconformity, permit, taxing and assessment policies and bureaucracy or other limiting conditions or restrictions.

These terms are used by appraisers to represent a physical condition of improvements, regardless of the actual age or date originally built. The physical life of most structures can be extended indefinitely if proper maintenance is applied when needed, and short-lived components are replaced as necessary. This extended life cycle is well supported by the great number of existing homes today that were constructed well before the 1930's and 1940's. Re-sales of these same properties tend to validate this extended life theory after analyzing sales prices compared with more recent construction.

Based on the foregoing discussion and in keeping with the appraisal industry standards, the following commercial depreciation tables are based on the effective age of structures being valued and not the actual or chronological age.

VI. Commercial Cost Structure Categories

Costs for commercial properties have been estimated in three steps. They are as follows:

- 1) Costs for the exterior “building shell” were derived from Core Logic Swift Cost estimator. The exterior shell includes the basic building structural components, including frame, foundation structure, roof structure and roof coverings. The following chart summarizes the basic physical characteristics presumed for each property type within the Basic Structure Code Assignment. Each structure code is then separated into one of four basic construction types.

Basic Structure Code	Description	MA Code	Use of Basic Structure	Physical Characteristics of Basic Structure
3	Small Box	25	Industrial	Less than 25,000 square feet
				Standard Wall Height 16'
				Hanging Space Heaters
				Basic Electric Service Includes Lighting Plumbing fixtures are added per fixture
4	Big Box			Greater than 25,000 square feet:
				Standard Wall Height 18'
				Hanging Space Heaters
				Plumbing fixtures are added per fixture Basic Electric Service Includes Lighting
3	Small Box		34 Retail Store	Less than 25,000 square feet
			58 Neighborhood SC	Standard Wall Height of 12'
			59 Shopping Mall	100% Heated/Cooled
			15 Department Store	Asphalt tile floors
			16 Discount Store	Basic Electric Service Includes Lighting
			38 Supermarket	Plumbing fixtures are added per fixture
			60 Community Center	Minimal Partitions
			61 Skating Rink (Roller)	
			52 Community Building	
			4	Big Box
58 Neighborhood SC	Standard Wall Height of 16'			
59 Shopping Mall	100% Heated/Cooled			
15 Department Store	Asphalt tile floors			
16 Discount Store	Basic Electric Service Includes Lighting			
38 Supermarket	Plumbing fixtures are added per fixture			
60 Community Center	Minimal Partitions			
52 Community Building				
61 Skating Rink (Roller)				
3	Small Box			
			46 Medical Office	Standard Wall Height of 10'
			45 Radio/TV Station	100% Heated/Cooled
			44 Funeral Home	Commercial Grade Carpet floors
				Basic Electric Service Includes Lighting Plumbing fixtures are added per fixture Single Level

4	Big Box		32	Office	Greater than 25,000 square feet
			46	Medical Office	Standard Wall Height of 12'
					100% Heated/Cooled
					Commercial Grade Carpet floors
					Basic Electric Service Includes Lighting
				Plumbing fixtures are added per fixture	
				Multiple Level	
				Elevators	
5	Office/Gov't		86	Veterinary Hospital	100% Heated/Cooled
					Standard Wall Height of 10'
					Plumbing fixtures are added per fixture
					Commercial Grade Vinyl/Asphalt Tile Floors
					Basic Electric Service Includes Lighting
				Plumbing fixtures are added per fixture	
				Single Level	
2	Low Rise		1	Apartment Flat	Wood Frame Construction
			18	Duplex	Brick Veneer or Wood Siding
			42	Retirement	Basic Electric Service Includes Lighting
			???	Assisted Living	Plumbing fixtures are added per fixture
			21	Fraternity House	100% Heated/Cooled
				Residential Grade Vinyl or Carpet Flooring	
1	High Rise		2	Apartment Townhouse	Wood Frame Construction
			65	Multiple Dwelling	Brick Veneer or Wood Siding
			21	Fraternity House	Basic Electric Service Includes Lighting
					Plumbing fixtures are added per fixture
					100% Heated/Cooled
				Residential Grade Vinyl or Carpet Flooring	
9	Fast Food		50	Fast Food	Structural Steel Frame Construction
					Standard Wall Height of 12'
					Brick Veneer or Stucco Exterior Walls
					Commercial Grade Impervious Flooring
					100% Heated/Cooled
				Plumbing fixtures are added per fixture	
				Extensive Kitchen Plumbing	
				Interior Finish with Acoustical Tile Ceiling	
3	Small Box		33	Restaurant	Wood Frame with Brick Veneer or Wood Siding
					Standard Wall Height of 12'
					100% Heated/Cooled
					Asphalt tile floors
					Basic Electric Service Includes Lighting
				Plumbing fixtures are added per fixture	
				Minimal Partitions	
				Extensive Kitchen Plumbing	

4	Big Box	5	Auto Showroom	Greater than 25,000 square feet Steel Frame Construction w/Various Exterior Finishes Standard Wall Height of 16' 100% Heated/Cooled Commercial Grade Impervious Flooring Upgraded Electric Service Includes Lighting Plumbing fixtures are added per fixture Customer Waiting Area High Quality Service Bays Drive-thru Service Attendant Area
3	Small Box	35	Service Garage	Small Customer Waiting Area
		54	Automotive Center	Bays for Service
		55	Mini-Lube	Standard Wall Height of 16' Steel Frame Construction with Brick Veneer 100% Heated/Cooled in Customer Waiting Area Hanging Space Heater(s) in Bay Area Electric Service Includes Lighting Plumbing fixtures are added per fixture Below Grade Pit Area(s)
5	Office/Gov't	6	Bank	Structural Steel Frame Construction
		64	Bank Drive-Thru	Standard Wall Height of 10' Brick Veneer or Stucco Exterior Walls Commercial Grade Impervious Flooring Upgraded Electric Service Includes Lighting 100% Heated/Cooled Plumbing fixtures are added per fixture Minimum Lobby or Waiting Area
3	Small Box	41	Convenience Stores	Concrete Block Construction w/Steel Frame Roof Supports Minimal Partitions 100% Heated/Cooled Standard Wall Height of 10' Commercial Grade Impervious Flooring Plumbing fixtures are added per fixture Electric Service Includes Lighting
3	Small Box	68	Mini Warehouse	Light Steel Frame Construction Standard Wall Height of 10' No Heating/Cooling Unfinished Concrete Floor One Light Fixture only - Add per Unit One Rollup Garage Door per Unit Small Office Area
1	High Rise	24	Hotel	Light Steel Frame Construction
		31	Motel	Brick Veneer or Wood Siding Basic Electric Service Includes Lighting Plumbing fixtures are added per fixture 100% Heated/Cooled Residential Grade Vinyl or Carpet Flooring Standard Wall Height of 10' per Floor Sprinkler System Elevator

7	Open Bldg/Light Wall		9 Car Wash - Self Service	Open Brick Structure with No Side Walls Concrete Foundation Wall Height is 10' Basic Electric Service Includes Lighting No Heating/Cooling
3	Small Box		67 Car Wash Drive-Thru	Light Steel Frame Construction w/Brick Veneer or Stucco Siding Small Customer Waiting Area Standard Wall Height of 12' 100% Heated/Cooled in Waiting Room Only Minimal Partitions Basic Electric Service Includes Lighting Plumbing fixtures are added per fixture Small Office/Storage, Restrooms & Vinyl Carpet Floor Finishes
6	Hall/Theater		39 Theater	Light Steel Frame Construction w/Brick Veneer or Stucco Siding Standard Wall Height of 16' 100% Heated/Cooled Minimal Partitions Plumbing fixtures are added per fixture Concession Area Stepped Floor Commercial Grade Carpet Adequate Lighting and Sound Systems
4	Big Box		86 Estate Stables	Wood Frame Structure w/Brick Veneer, Vinyl or Wood Siding Upgraded Electric Service Includes Lighting 100% Heated/Cooled Standard Wall Height of 12' to 14' Plumbing fixtures are added per fixture Special Rubberized Mats - BPP Sleeping Area for Owner/Veterinary Floor Drains Delivery Area for Vet Observatory Area Tack Room - Pharmacy Small Office Area Ornate Stalls Concrete Slab Floor
3	Small Box	44A	Mausoleum	Priced per Crypt or Niche
3	Small Box		14 Country Club	Less than 25,000 square feet Standard Wall Height of 12' 100% Heated/Cooled Asphalt tile floors Basic Electric Service Includes Lighting Plumbing fixtures are added per fixture Minimal Partitions
5	Office/Gov't		14 Country Club	Structural Steel Frame Construction Standard Wall Height of 12' Brick Veneer or Stucco Exterior Walls Commercial Grade Impervious Flooring Upgraded Electric Service Includes Lighting 100% Heated/Cooled Adequate Showers/Restrooms Meeting Rooms Dining Room Pro Shop 100% Heated/Cooled Kitchen and Bar Area Plumbing fixtures are added per fixture

Basic Structure Codes are divided into 10 basic types. They are as follows:

Basic Structure Code Descriptions	Description
1	High Rise Apartments or motels
2	Low Rise Apartments-not over 2 stories
3	Small Box- commercial structures
4	Big Box commercial- typically over 25k square feet
5	Government, Institutional Buildings
6	Large open structures, such as auditoriums & theaters
7	Light structure open buildings
8	High rise office buildings typically fire proof
9	Fast food
10	Other residential or mixed use buildings

- 2) Each structure code is then separated into one of four basic construction types. They are summarized as follows.

Construction Type	
1	Frame- -Wood frame and some metal studs or support members
2	Fire Resistant- Masonry and steel
3	Fire Proof-masonry & steel with cementitious compounds sprayed on the steel.
4	Light Steel- pre-engineered metal frame

- 3) Costs for the exterior “building skin” were derived from Core Logic Swift. The following chart shows the 10 choices for the exterior building skin finishes.

Wall code	Description
00	None
01	Brick
02	Stone
03	Concrete Block
04	Stucco
05	Wood Panel/Log
06	Wood siding
07	Asbestos
08	Aluminum or Vinyl

09	Corrugated Metal
10	Precast Panels-Concrete
11	Precast Sandwich metal
12	Hardiboard

Note: Wall code 7- asbestos is not a valid choice since there are no costs available from Core Logic Swift.

- 4) The final step is to input an interior finish for the specific property type. Interior costs include floor finishes, wall finishes, ceilings, HVAC, lighting and partitions. These costs have been derived from Core Logic and are based on average quality and typical interior finishes based on the use.

Note: Any structure, building component, etc. not listed within the commercial/industrial pages of this 2019 Schedule of Values shall be valued and subject to review by the appraisal staff. Any unusual structure will be individually reviewed and valued by the appraisal staff. See NCGS 105-394.

COMMERCIAL SALES AND INCOME
APPROACHES TO VALUE

Introduction

The income approach provides an indication of what a prudent investor would pay for a given property based on an analysis of the potential income that the property would produce. Estimating the present value from income is called *capitalization*. The basic model for direct capitalization is in the form: $Value = Income \text{ divided by Rate}$. Income is the estimate of annual net stabilized income. The rate is the capitalization rate appropriate for the subject property at the effective date of the appraisal. Direct capitalization uses a capitalization rate taken directly from the market by dividing the net income of property that sold by the sale price. It is the method most used for mass appraisal as it is easily understood, can be used consistently because few variables are used, and its components can be supported by market evidence.

The first step in analyzing income is the calculation of potential gross income. For direct capitalization this is the projected total earnings from the market rent of the property at one hundred percent occupancy. Market rents are derived by comparing similar property types and recently negotiated leases on those property type. This represents a use of the Principle of Substitution.

Typical or stabilized vacancy and collection loss can be established considering occupancy levels of similar or nearby properties or through surveys of similar properties. The vacancy and collection loss allowances are subtracted from the potential gross income and miscellaneous income is added which renders an effective gross income.

From the effective gross income, a stabilized operating expense allowance is deducted. Operating expenses are considered to be the expenses incurred to operate the property at stabilized occupancy during the year. These figures may be developed from historical expenses on the subject property; data collected from similar properties or standardized industry ratios. In mass appraisal, pass-through expenses are typically deducted from the owner's expense as they are paid by the tenant (net lease situation) and not included in potential gross income (or in the actual or asking rents). In all cases, the operating expense allowance must reflect capable and competent management of the property in a normal operating year.

Extraordinary expenses, such as capital improvements, depreciation and debt service are not considered operating expenses to derive a net operating income.

Reserve for Replacement is the name assigned to the account for replacing short-lived items, such as roofs and appliances. To be accepted as an allowable operating expense, this account must exist in the operating documents of the subject property, similar properties, or in industry surveys for this property type. All data in regard to

the income approach and operating expenses must be derived from the market.

Real Estate taxes are not used as an operating expense for ad valorem appraisals because the tax expense is directly related to the property's market value, which is being determined by the appraisal. Two methods are commonly used to make adjustments in the capitalization rate to account for real estate taxes when doing mass appraisals for tax assessment purposes. If real estate taxes have been included as an expense in the development of the overall capitalization rate of comparable sales, an estimated effective tax rate may be added to the market-driven overall capitalization rate. Alternatively in deriving the capitalization rates, real estate taxes can be taken out of the expenses of comparable sales, thus producing more net income and a higher overall capitalization rate.

Overall capitalization rates used in the revaluation process are all rates reflecting real estate taxes as an expense. The technique of loading the capitalization rate cannot be used since the tax rate will be unknown until after the tax base has been totaled and the county commissioners have set the rate.

Effective gross income less operating expenses equals net operating income. The net operating income is then divided by an appropriate capitalization rate for the subject property to estimate the value in direct capitalization.

If yield capitalization or discounted cash flow is considered as an income approach technique, all assumptions must be based on prevailing market conditions and reasonable investor expectations tempered with reliable economic projections. To be considered and carry weight in the valuation decision, all other methods such as discounted cash flow, should have documented market support for the various presumptions and projections used in the discounted cash flow method.

Other capitalization methods used for mass appraisal include gross rent multipliers and effective gross rent multipliers. These methods do not include or account for differences in operating expenses, so care must be taken to use comparable sales that have very similar long-term operating expense ratios, occupancy levels, and risk levels. These multipliers may be employed as sales comparison measures in the market approach to value. In single-family residences, the monthly gross is usually used, while in multiple residences, the annual gross is generally used. After gross multipliers are derived from a number of sales, they are collated and considering their comparability and their reliability, a single gross multiplier is determined by which to multiply the gross income of the subject property.

Published local and regional commercial rate information is considered in establishing guidelines for commercial valuation. Among the published sources the County reviews in rate establishment are:

CRCBR²¹
SiteIndex²²
Carolina Multiple Listing Services, Inc.²³
RealtyRates (Investor Survey)²⁴

As with any guide, some properties may lay outside a stated range. As such, each individual property is to be analyzed separately.

²¹ Charlotte Region Commercial Board of REALTORS © www.crcbr.org

²² www.SiteIndexCharlotte.com

²³ www.carolinarealtors.com

²⁴ www.RealtyRates.com

I. Commercial Code Tables

Property Type	Main Area Commercial Codes
Industrial	22- Air craft hanger 25- Industrial 26-Laboratory – in industrial setting 40- Warehouse 48-Research & development 51-Transit Warehouse 62-Distribution Warehouse 82-Storage warehouse
Retail –small strip centers and neighborhood centers	58-Neighborhood Shopping Center 59-Shopping Malls
Office-General Purpose	32-Office
Office- Medical	46- Medical office 86-Veterinary Hospital
Multi family/Apartments- Market rate	01-Apartment Flat 02- Apartment- townhouse 18- Duplex-Triplex 42- Retirement 65- Multiple Dwelling
Discount Store-Supermarket	15-Department Store 16- Discount Store 38-Supermarket 60-Community Centers 61-Skating rink(roller)
Retail-Multi tenant & single tenant	07-Beauty/Barber shop 08-Cafeteria 27-Laundry/Cleaner 27-1- Laundromat 34- Retail stores 43-Bowling Alley 53- Health Club 81- Day Care 85- Automotive Parts Sales
Restaurants-Fast Food	50-Fast food restaurant
Restaurants-General	33-Restaurant
Auto Service/Garage	05-Auto Showroom

	35-Service Garage 54- Automotive Center 55-Mini-Lube 57-Repair Shop
Banks	06-Bank 64-Bank Drive In
Convenience Stores-Gas Stations	41-Convenience Store
Self Storage	68- Mini Warehouse 68A- Mini Warehouse-Low Quality 68R-1- Mini Warehouse-condos 68R-2- Mini Warehouse- variable
Drug Stores	34-Retail
Motel/Hotel	24- Hotel 31- Motel
Car Wash	09- Car wash 67-Car wash drive through
Miscellaneous	14-Country Club 21-Fraternity House 23- Hospital 39- Theater 44- Funeral Home 44A1-Mausoleum 44A2- Mausoleum 44A3- Mausoleum 45-Radio/TV Station 52-Community Building 86M1- Estate Stables

II. Description of Property Types, Classes and Value ranges

Industrial

Definition of Classes

Class A--- New construction, typically higher clear heights, in the 24-30 foot range. Can be either pre-engineered metal or masonry construction. Adequate dock doors, typically dock high. Typically demand the highest rents and have little or no deferred maintenance issues. Usually these buildings are in easily accessed locations for truck access to major thoroughfares. Most likely they are professionally managed. Tenants in a Class A building are typically companies that are national or regional in scope with established credit ratings

Class B-Generally older properties, I.e. over 15 years old, with some deferred maintenance issues. Clear heights typically are between 16-24 feet. Investors typically buy at a higher cap rate relative to the Class A property due to a higher risk profile. Tenants are typically lower rent and the property may not be professionally managed. Tenants in Class B structures are usually local companies with some established business history.

Class C- Buildings that are usually over 25 years old and have the lowest rental rates in the market. Major deferred maintenance issues are present and major renovations are needed to bring building systems up to date. Location is usually a secondary and more remote access area. Tenants in class C buildings are either owner occupied or local tenants with less established business history and credit.

Class D – Structures near the end of their economic life or structures that are on rural land and a nonconforming use.

Sales Comparison Approach

The following chart shows price ranges for the various classes of industrial buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$35.00	\$100.00	\$60.00
B	\$18.00	\$35.00	\$25.00
C	\$2.00	\$15.00	\$10.00
D	\$3.00	\$5.00	\$4.00

Income Approach

Rental Ranges

The following rental ranges presume a **triple net** arrangement. That term presumes that the landlord pays nothing and the tenant is responsible for taxes, insurance, interior maintenance, ground maintenance and utilities. Typically in a triple net lease, the landlord may be responsible for structural and roof maintenance.

Building Class	Rent Low/SF	Rent High/ SF	Average Rent/SF
A	\$4.00	\$6.00	\$6.50
B	\$2.50	\$4.50	\$3.00
C	\$2.40	\$2.50	\$2.40
D	\$1.00	\$3.00	\$1.50

If a property is leased on a **modified gross** basis, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	8%
C	20%	50%	25%
D	50%	75%	%50

Cap Rate Ranges

The following cap rates were researched from actual sales of industrial properties that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	6.5%	8%	7%
B	7%	15%	8.5%
C	10%	13%	10%
D	11%	13%	12%

Retail-small strip centers and neighborhood centers

1. Definition of Classes

Class A--- New construction, with high quality construction materials and construction design. Typically construction is masonry with stone or stucco decorative accents. Typically demand the highest rents and have little or no deferred maintenance issues. Usually these buildings are in high visibility locations with good visibility and access. Most likely they are professionally managed. Tenants in a Class A building are typically companies that are national or regional in scope with established credit ratings. Investors who are looking for stable income producing properties usually buy these types of properties.

Class B--- Generally older properties, I.e. over 15 years old, with some deferred maintenance issues. Investors typically buy at a higher cap rate relative to the Class A property due to a higher risk profile. Tenants are typically lower rent and the property may not be professionally managed. Tenants in Class B structures are usually local companies with some established business history. A mixture of investors or owner occupants buy these type of properties..

Class C--- Buildings that are usually over 30 years old and have the lowest rental rates in the market. Major deferred maintenance issues are present and major renovations are needed to bring building systems up to date. Location is usually a secondary and more remote access area. Tenants in class C buildings are local tenants with less established business history and credit.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of retail buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$65.00	\$250.00	\$125.00
B	\$40.00	\$65.00	\$50.00
C	\$25.00	\$45.00	\$30.00

3. Income Approach

Rental Ranges

The following rental ranges presume a triple net arrangement. That term presumes that the landlord pays nothing and the tenant is responsible for taxes, insurance, interior maintenance, ground maintenance and utilities. Typically in a triple net lease, the landlord may be responsible for structural and roof maintenance. In Class A properties, expenses are usually passed through to the tenant in terms of taxes, insurance and common area maintenance charges.

Building Class	Rent Low/SF	Rent High/ SF	Average Rent/SF
A	\$15.00	\$32.00	\$28.00
B	\$10.00	\$16.00	\$12.00
C	\$3.50	\$10.00	\$6.00

If a property is leased on a modified gross basis which may be the case with class B and C retail properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance

Building Class	Low value/%	High value/%	Average value/%
A	1%	7%	3%
B	7%	15%	10%
C	15%	50%	20%

Cap Rate Ranges

The following cap rates were researched from actual sales of retail properties that were leased at the time of sale. These rates are inclusive of real estate taxes. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	7%	15%	8.5%
C	10%	15%	12%

Office-General Purpose

1. Definition of Classes

Class A--- New construction, with high quality construction materials and construction design. Typically construction is masonry with stone or stucco decorative accents. This classification typically demands the highest rents and have little or no deferred maintenance issues. Usually these buildings are in good visibility locations with good access. Most likely they are professionally managed. Tenants in a Class A building are typically companies that are national or regional in scope with established credit ratings. These buildings are typically purchased by investors who are looking for stable income producing properties.

Class B--- Generally older properties, I.e. over 15 years old, with some deferred maintenance issues. Investors typically buy at a higher cap rate relative to the Class A property due to a higher risk profile. Tenants are typically lower rent and the property may not be professionally managed. Tenants in Class B structures are usually local companies with some established business history. These properties are purchased by a mixture of investors or owner occupants.

Class C--- Buildings that are usually over 30 years old and have the lowest rental rates in the market. Major deferred maintenance issues are present and major renovations are needed to bring building systems up to date. Location is usually a secondary and more remote access area. Tenants in class C buildings are local tenants with less established business history and credit. Most of these properties are purchased solely by owner occupants.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of office buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$100.00	\$250.00	\$160.00
B	\$40.00	\$90.00	\$50.00
C	\$25.00	\$45.00	\$40.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a full service lease arrangement. That term presumes that the landlord pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/ SF	Average Rent/SF	Lease basis
A	\$15.00	\$20.00	\$18.00	Full service
	\$12.00	\$17.00	\$15.00	Modified gross
B	\$10.00	\$16.00	\$12.00	Full service
	\$7.00	\$13.00	\$9.00	Modified gross
C	\$6.00	\$10.00	\$8.00	Full service
	\$5.00	\$8.00	\$6.00	Modified gross

If a property is leased on a modified gross basis which may be the case with class B and C office properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	20%	50%	25%

Expenses:

Full service expenses are real estate taxes, insurance, utilities, interior and exterior maintenance, janitorial services, management and roof and structural maintenance. **Modified gross expenses** are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$4.00	\$7.00	\$6.00	Full service
	\$3.00	\$5.00	\$4.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of office properties that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	7%	15%	8.5%
C	10%	15%	12%

Medical Office

1. Definition of Classes

Class A--- New construction, with high quality construction materials and construction design. Typically construction is masonry with stone or stucco decorative accents. Typically demand the highest rents and have little or no deferred maintenance issues. Usually these buildings are in good visibility locations with good access. Most likely they are professionally managed. Tenants in a Class A building are typically associated with Hospital groups. These buildings are typically purchased by investors who are looking for stable income producing properties.

Class B-Generally older properties, I.e. over 15 years old, with some deferred maintenance issues. Investors typically buy at a higher cap rate relative to the Class A property due to a higher risk profile. Tenants are typically lower rent and the property may not be professionally managed. Tenants in Class B structures are usually local medical practices. These properties are purchased by a mixture of investors or owner occupants.

Class C- Buildings that are usually over 20 years old and have the lowest rental rates in the market. Major deferred maintenance issues are present and major renovations are needed to bring building systems up to date. Location is usually a secondary and more remote access area. Tenants in class C buildings are local tenants with less established business history and credit. Most of these properties are purchased solely by owner occupants.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of office buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$150.00	\$275.00	\$200.00
B	\$100.00	\$150.00	\$130.00
C	\$25.00	\$55.00	\$50.00

3. Income Approach

Rental Ranges:

The following rental ranges show both full service lease and modified gross lease arrangements. That term presumes that the landlord pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$15.00	\$25.00	\$18.00	Full service
	\$12.00	\$17.00	\$15.00	Modified gross
B	\$10.00	\$16.00	\$12.00	Full service
	\$7.00	\$13.00	\$9.00	Modified gross
C	\$6.00	\$10.00	\$8.00	Full service
	\$5.00	\$8.00	\$6.00	Modified gross

If a property is leased on a modified gross basis which may be the case with class B and C office properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	20%	50%	25%

Expenses:

Full service expenses are real estate taxes, insurance, utilities, interior and exterior maintenance, janitorial services, management and roof and structural maintenance.

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$4.00	\$8.00	\$6.00	Full service
	\$3.00	\$5.00	\$4.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of medical office properties that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	8.0%	6.5%
B	7%	15%	8.5%
C	10%	15%	12%

Multi family/Apartments

1. Definition of Classes

Class A—Less than 5 years old. Multiple amenities, and in a desirable location. This property type is usually purchased by investors wanting a lower risk income flow and stable investment.

Class B-- Between 5 and 15 years old. Slightly worn with some deferred maintenance, and in less demand locations. Buyers of this property type are looking for a property that could be renovated and repositioned in terms of rental rates.

Class C- Older than 15 years old. May be well maintained but has some outdated finishes and more deferred maintenance than the Class B category. Location may be less desirable and more remote. Buyers of this property are typically small Mom and Pop local investors.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of multi family projects. Prices per unit were derived from actual sales researched from commercial property databases.

Building Class	Low value/unit	High value/unit	Average value/Unit
A	\$50,000	\$100,000	\$65,000
B	\$35,000	\$50,000	\$40,000
C	\$15,000	\$35,000	\$30,000

3. Income Approach

Rental Ranges:

The following rental ranges are on the basis of a per square foot per month basis. They presume landlord provides all services except utilities. The following chart shows typical rents for the three classes.

Building Class	Rent Low/ SF/month	Rent High/ SF/month	Average Rent/SF/month
A	\$0.90	\$1.25	\$1.10
B	\$0.75	\$0.85	\$0.80
C	\$0.50	\$0.75	\$0.60

Vacancy Allowance:

Building Class	Low %	High %	Average %
A	3%	7%	5%
B	4%	10%	5%
C	10%	30%	10%

Expenses:

Expenses in apartments or multifamily are typically real estate taxes, insurance, maintenance, trash pickup, grounds maintenance, management, and reserves for replacement. The following chart shows expenses on both a per unit per year basis and also on a % of the Effective Gross Income.

Building Class	Expenses-% of Effective Gross Income
A	25% to 45%
B	35% to 55%
C	45% to 65%

Cap Rate Ranges:

The following cap rates were researched from actual sales of retail properties that were leased at the time of sale. Sources are LoopNet, CoStar, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	7%	10%	9.0%
C	10%	15%	10%

Discount Store/Supermarket

This property type is usually a stand alone structure constructed for a single tenant retail user. They range in size from 6,000 to 45,000 square feet. Examples are Dollar Generals, Family Dollars, grocery stores, auto parts stores, Harbor Freight, Staples, Northern Tool, and general retail stores.

1. Definition of Classes

Class A- Usually build to suit, less than 5 years old. No deferred maintenance and prime retail location.

Class B- Between 5 and 20 years old. Some deferred maintenance and may also be in a lower demand location.

Class C- Over 20 years old. Lots of deferred maintenance. Lower parts of the range are dilapidated structures that may be candidates for demolition.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of stand alone retail buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$75.00	\$125.00	\$85.00
B	\$40.00	\$75.00	\$50.00
C	\$20.00	\$50.00	\$40.00

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$8.00	\$17.00	\$16.00	Triple Net
	\$9.00	\$18.00	\$15.00	Modified gross
B	\$6.00	\$10.00	\$9.00	Triple Net
	\$7.00	\$13.00	\$10.00	Modified gross
C	\$3.00	\$6.00	\$5.00	Triple Net
	\$5.00	\$8.00	\$6.00	Modified gross

If a property is leased on a modified gross basis which may be the case with class B and C retail properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	15%	40%	20%

Expenses:

Full service expenses are real estate taxes, insurance, utilities, interior and exterior maintenance, janitorial services, management and roof and structural maintenance.

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$4.00	\$7.00	\$6.00	Full service
	\$3.00	\$5.00	\$4.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of retail properties that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	7%	15%	8.5%
C	10%	15%	12%

Retail-Multi Tenant & Single Tenant

This property type is usually a multi tenant property with between 2 and 12 local tenant spaces and occasionally has a grocery store anchor. Neighborhood centers are included in this category. They range in size from 6,000 to 125,000 square feet. Anchor tenants are usually 6,000 to 30,000 square feet and local shops have 1,000 to 3,000 square feet.

Examples of smaller single tenant properties are retail shops with tenants such as Panera Bread and a Vitamin Shoppe, jewelry stores, mattress stores, Walgreens, Rite Aid, Starbucks, Family Dollar, Dollar General, and Sherwin Williams stores.

1. Definition of Classes

Class A- Usually build to suit, less than 5 years old. No deferred maintenance and prime retail location.

Class B- Between 5 and 20 years old. Some deferred maintenance and may also be in a lower demand location.

Class C- Over 20 years old. Lots of deferred maintenance. Lower parts of the range are dilapidated structures that may be candidates for demolition.

Class D – Buildings that are on rural acreage and a nonconforming use.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of retail buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$75.00	\$350.00	\$225.00
B	\$40.00	\$75.00	\$50.00
C	\$20.00	\$40.00	\$30.00
D	\$15.00	\$30.00	\$25.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a **triple net** lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a **modified gross** basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$25.00	\$35.00	\$32.00	Triple Net
	N/A	N/A	N/A	Modified Gross
B	\$8.00	\$18.00	\$12.00	Triple Net
	\$10.00	\$20.00	\$14.0	Modified Gross
C	\$3.00	\$8.00	\$6.00	Triple Net
	\$4.00	\$10.00	\$7.00	Modified Gross
D	\$3.00	\$5.00	\$4.00	Triple Net
	\$6.00	\$7.00	\$6.00	Modified Gross

If a property is leased on a modified gross basis which may be the case with class B and C retail properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	1%	7%	3%
B	7%	15%	10%
C	20%	50%	25%
D	25%	50%	35%

Expenses:

Full service expenses are real estate taxes, insurance, utilities, interior and exterior maintenance, janitorial services, management and roof and structural maintenance.

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$4.00	\$7.00	\$6.00	Full service
	\$2.00	\$4.00	\$3.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of retail properties that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	7%	15%	8.5%
C	10%	15%	11%
D	11%	15%	12%

Restaurants- Fast Food

Stand alone buildings between 2,000 to 10,000 square feet. Depending on the restaurant type there is a commercial kitchen and a seating area. Parking is between 4 and 6 spaces per 1,000 square feet of building area. Figures in the value ranges do not include kitchen equipment. Freezers and coolers are included if they are a part of the structure.

1. Definition of Classes

Class A- Less than 5 years old and almost always a built to suit structure to the tenant's specifications. Usually occupied by a nationally recognized franchise tenant.

Class B—Between 5 and 20 year old. Some deferred maintenance. Finishes may be outdated. May be occupied by national franchise but location may be less in demand.

Class C—Usually occupied by a second or third generation restaurant user. Some deferred maintenance and building style is dated. Age is between 25 and 50 years old.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of fast food stores and restaurants. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$250.00	\$550.00	\$400.00
B	\$100.00	\$250.00	\$200.00
C	\$50.00	\$75.00	\$60.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$22.00	\$35.00	\$30.00	Triple Net
B	\$14.00	\$22.00	\$20.00	Triple Net
C	\$6.00	\$14.00	\$10.00	Triple Net

If a property is leased on a modified gross basis which may be the case with class B and C restaurant properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	20%	30%	20%

Cap Rate Ranges:

The following cap rates were researched from actual sales of fast food restaurant properties that were leased at the time of sale. Sources are LoopNet, Costar, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	6.5%	10%	7.0%
C	8%	12%	9.5%

Restaurants- Full Service

Stand alone buildings between 4,000 to 10,000 square feet. Depending on the restaurant type there is a commercial kitchen and a seating area. This category is generally for places such as Appleby's, Chili's, Pizza Hut, and locally owned restaurants. Parking is between 4 and 6 spaces per 1,000 square feet of building area. Figures in the value ranges do not include kitchen equipment. Freezers and coolers are included if they are a part of the structure.

1. Definition of Classes

Class A- Less than 5 years old and almost always a built to suit structure to the tenants specifications. Usually occupied by a nationally recognized franchise tenant.

Class B—Between 5 and 20 year old. Some deferred maintenance. Finishes may be outdated. May be occupied by national franchise but location may be less in demand.

Class C—Usually occupied by a second or third generation restaurant user. Some deferred maintenance and building style is dated. Age is between 25 and 50 years old.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of sit down restaurants. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$250.00	\$550.00	\$400.00
B	\$100.00	\$250.00	\$200.00
C	\$50.00	\$75.00	\$60.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$22.00	\$35.00	\$32.00	Triple Net
B	\$15.00	\$22.00	\$18.00	Triple Net
C	\$10.00	\$15.00	\$12.00	Triple Net

If a property is leased on a modified gross basis which may be the case with class B and C restaurant properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	20%	30%	20%

Cap Rate Ranges:

The following cap rates were researched from actual sales of fast food restaurant properties that were leased at the time of sale. Sources are LoopNet, Costar, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	6.5%
B	7%	10%	9%
C	10%	12%	11%

Auto Service/Garage

Properties devoted to auto repair and service. Buildings typically have a small showroom, customer waiting area and several service bays. No equipment is included in these figures. Lifts may be built in or separately mounted on the floor. Examples are Goodyear Auto repair, Firestone Tire Stores, and local service repair properties.

1. Definition of Classes

Class A- Less than 5 years old and almost always a built to suit structure to the tenants specifications. Usually occupied by a nationally recognized franchise tenant.

Class B—Between 5 and 20 year old with some deferred maintenance. Finishes may be outdated or worn. May be occupied by national franchise but location may be less in demand.

Class C—Usually occupied by a second or third generation auto repair user. Some deferred maintenance and building style is dated. Age is between 25 and 50 years old. May be a structure that was formerly a gas station.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of auto service garages. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$150.00	180.00	\$175.00
B	\$60.00	\$125.00	\$70.00
C	\$25.00	\$60.00	\$45.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both scenarios.

Building Class	Rent Low/SF	Rent High/ SF	Average Rent/SF	Lease basis
A	\$12.00	\$18.00	\$16.00	Triple Net
	\$14.0	\$24.00	\$18.00	Modified gross
B	\$10.00	\$15.00	\$12.00	Triple Net
	\$11.00	\$16.00	\$14.00	Modified gross
C	\$5.00	\$10.00	\$8.00	Triple Net
	\$7.00	\$12.00	\$10.00	Modified gross

If a property is leased on a modified gross basis which may be the case with class B and C service garages, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	20%	30%	20%

Cap Rate Ranges:

The following cap rates were researched from actual sales of service garages that were leased at the time of sale. Sources are LoopNet, Costar, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	8.0%
B	7%	10%	9%
C	9%	12%	9.5%

Banks

Typically stand alone single tenant buildings on individual out parcel site. Usually between 4,000 and 6,000 square feet and generally of masonry construction. Typically has drive through window.

1. Definition of Classes

Class A- Always build to suit, less than 5 years old. No deferred maintenance and prime retail location. This class may also have separate offices for meeting with clients.

Class B- Between 5 and 20 years old. Some deferred maintenance and may also be in a lower demand location. Sometimes occupied by a second generation bank user.

Class C- Over 20 years old. Lots of deferred maintenance. Lower parts of the range are sometimes occupied by non bank users. In that case this class may be reassigned to a different category depending on the user and the modifications made to the building.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of bank buildings. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$200.00	\$500.00	\$400.00
B	\$125.00	\$150.00	\$140.00
C	\$50.00	\$125.00	\$90.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and management. The following chart shows typical rents for a triple net basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$24.00	\$34.00	\$30.00	Triple Net
B	\$12.00	\$20.00	\$18.00	Triple Net
C	\$8.00	\$12.00	\$10.00	Triple Net

If a property is leased on a modified gross basis which may be the case with class B and C bank properties, typically the landlord pays taxes and insurance. In that case, the triple net rate should be increased by the taxes and insurance on a per square foot basis to derive the modified gross rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	20%	50%	25%

Expenses:

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$2.00	\$4.00	\$3.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of branch banks that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	7%
B	7%	11%	8.0%
C	10%	15%	10%

Convenience Stores-Gas Stations

Properties with gas pumps and a stand alone building with interior retail areas. Examples include Citgo, QuikTrip, Sheetz, and various other brands.

1. Definition of Classes

Class A- Always build to suit, less than 5 years old. No deferred maintenance and prime retail location. This class has large interior retail areas offering drinks, hot food, and multiple convenience items. Always in high visibility locations and generally on a corner.

Class B- Between 5 and 20 years old. Some deferred maintenance and may also be in a lower demand location. Sometimes occupied by a second generation user.

Class C- Over 20 years old. Lots of deferred maintenance. Lower parts of the range sometimes have no gas pumps. In that case this class may be reassigned to a different category depending on the user and the modifications made to the building. Most likely modifications in this classification will be to a service garage use.

Values estimated for this category of real estate do not include gas pumps or equipment and also do not include interior food preparation equipment. Those items are typically classified as personal property.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of convenience stores. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$300.00	\$750.00	\$500.00
B	\$100.00	\$200.00	\$180.00
C	\$35.00	\$100.00	\$70.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and management. The following chart shows typical rents for a triple net basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$24.00	\$34.00	\$30.00	Triple Net
B	\$12.00	\$20.00	\$18.00	Triple Net
C	\$8.00	\$12.00	\$10.00	Triple Net

If a property is leased on a modified gross basis which may be the case with class B and C properties, typically the landlord pays taxes and insurance. In that case, the triple net rate should be increased by the taxes and insurance on a per square foot basis to derive the modified gross rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	10%
C	10%	30%	15%

Expenses:

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$2.00	\$4.00	\$3.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of branch banks that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	7%
B	7%	11%	8.0%
C	10%	15%	10%

Self Storage

Typically self storage consists of small units with sizes between 25 and 200 square feet rented on an individual basis to consumers wanting to storage household goods or small contractors needing storage for their businesses. The properties are either pre-engineered metal construction or masonry concrete block. The better facilities have a mixture of climate controlled units and non heated or cooled units. In addition to storage units, properties also occasionally provide outside parking areas for RVs, boats and large vehicles needing separate outside storage.

1. Definition of Classes

Class A- Usually newer and well planned. Typically between 50 and 300 units and usually run by a nationally recognized self storage company, i.e. Public Storage, or Morningstar Self Storage. No deferred maintenance and good visibility location.

Class B- Between 5 and 20 years old. Some deferred maintenance and may also be in a lower demand location.

Class C- Over 20 years old. Lots of deferred maintenance. Smaller in size and occasionally lacks paved parking and good lighting.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of self storage properties. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$60.00	\$100.00	\$75.00
B	\$45.00	\$60.00	\$55.00
C	\$25.00	\$45.00	\$35.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a **full service** arrangement. That term presumes that the landlord pays all expenses associated with operating the property. Those categories are: taxes, insurance, interior maintenance, management, grounds maintenance , roof and structural maintenance and utilities.

Building Class	Rent Low/SF	Rent High/ SF	Average Rent/SF/Yr
A	\$6.50	\$12.50	\$11.00
B	\$4.50	\$7.00	\$6.00
C	\$0.75	\$2.50	\$1.75

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	3%	7%	5%
B	7%	15%	8%
C	20%	50%	25%

Expenses:

Expenses in self storage properties are typically real estate taxes, insurance, maintenance, trash pickup, utilities, grounds maintenance, management, and reserves for replacement. The following chart shows expenses on both a per unit per year basis and also on a % of the Effective Gross Income.

Building Class	Expenses-% of Effective Gross Income
A	25% to 45%
B	35% to 55%
C	45% to 65%

Cap Rate Ranges:

The following cap rates were researched from actual sales of self storage properties that were purchased based on the net income potential. Sources are LoopNet, Catylist, Costar, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	6.5%	8%	7.5%
B	7%	15%	10%
C	10%	15%	12%

Drug Stores

These properties are typically stand alone structures on high visibility sites. Normally between 6,000 and 12,000 square feet and occupied by national drug companies such as Walgreens, or CVS.

1. Definition of Classes

Class A- Always build to suit, less than 5 years old. No deferred maintenance and prime retail location.

Class B- Between 5 and 20 years old. Some deferred maintenance and may also be in a lower demand location. Interior finishes are showing signs of wear and tear and may be occupied by a national chain in the middle of or nearing the end of the 20 year lease.

Class C- Over 20 years old. Lots of deferred maintenance. Lower parts of the range are dilapidated structures that may be candidates for demolition. Usually occupied by a second generation user that has adapted the building to an alternative use.

2. Sales Comparison Approach

The following chart shows price ranges for the various classes of drug stores. Prices per square foot were derived from actual sales researched from commercial property databases.

Building Class	Low value/SF	High value/SF	Average value/SF
A	\$150.00	\$450.00	\$300.00
B	\$125.00	\$150.00	\$140.00
C	\$50.00	\$125.00	\$60.00

3. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for both basis.

Building Class	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
A	\$25.00	\$35.00	\$32.00	Triple Net
B	\$22.00	\$28.00	\$25.00	Triple Net
C	\$10.00	\$20.00	\$15.00	Triple Net

If a property is leased on a modified gross basis which may be the case with class B and C retail properties, typically the landlord pays taxes and insurance. In that case, the modified gross rent should be reduced by the taxes and insurance on a per square foot basis to derive the triple net rent.

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	0%	3%	1%
B	3%	10%	5%
C	7%	20%	10%

Expenses:

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$3.00	\$5.00	\$4.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of retail properties that were leased at the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	5.5%	7.5%	5.5%
B	7%	15%	7.0%
C	10%	15%	10%

Motel/Hotel

Limited Service definition

Limited service motels offer rooms at modest prices with no frills. While some of the limited service motels may offer amenities that are found in the full service category, the one important difference is that a limited service motel lacks the facilities to generate a food and beverage income stream. The following chart lists the brands that typically are classified as limited service.

America's Best Value	Element	La Quinta	SpringHill Suites
AmeriHost Inn	Fairfield Inn	Lexington Collection	Staybridge Suites
Baymont Inn	GuestHouse	MainStay Suites	Studio 6
Budget Host	Hampton Inn	Microtel Inn	Summerfield Suites
Cambria Suites	Hawthorn Suites	Motel 6	Super 8
Candlewood Suites	Holiday Inn Express	Park Inn	TownePlace Suites
Comfort Inn	Homewood Suites	Red Roof Inn	Vagabond Inn
Country Inn	Key West Inn	Residence Inn	Value Place
Country Hearth Inn	Knights Inn	Sleep Inn	Wingate Inn

Full Service definition

Full service motels offer more services to provide an all in one experience, however price points are higher than the limited service levels. Full service motels have in house restaurants, a bar, and often provide laundry service, shuttle services, a spa and a concierge. The following chart shows examples of the brands considered full service.

Conrad Hotels	Hyatt	Regent Hotels & Resorts
Marriott	InterContinental	Renaissance
Crowne Plaza	Luxury Collection	Ritz-Carlton
DoubleTree	Le Meridien	Sheraton
	Preferred Hotels & Resorts	
Embassy Suites	Resorts	St. Regis
Hilton	Radisson	W Hotels
Holiday Inn	Red Lion	Westin

1. **Sales Comparison Approach –Limited Service**

The following chart shows price ranges on a per room basis for the limited service motel. Prices per room were derived from actual sales researched from commercial property databases.

Class A- Hotel is newly constructed, under 5 years old and associated with a national chain.

Class B- Hotel is between 5-20 years old and well maintained. Also typically associated with a national chain but may be at the lower end of the price range.

Class C- Hotel is over 20 years old and showing signs of deterioration. Most likely operates as an independent with no national chain support or reservation system.

Limited Service Values per Room

Building Class	Low value/room	High value/room	Average value/Room
Class A	\$50,000	\$90,000	\$70,000
Class B	\$35,000	\$45,000	\$40,000
Class C	\$10,000	\$30,000	\$20,000

2. **Income Approach**

When valuing Hotels and motels, care must be taken to avoid including business value and FF & E(furniture, fixtures and equipment) values in the assessed value.

Room Rates

The following room rates were used for the various classes of properties.

Building Class	Low rent/room	High rent/room	Average rent/Room
Class A	\$80.00	\$ 130.00	\$105.00
Class B	\$40.00	\$70.00	\$60.00
Class C	\$25.00	\$40.00	\$39.00

Vacancy Allowance:

Building Class	Low value/%	High value/%	Average value/%
A	20%	40%	30%
B	30%	50%	30%
C	30%	60%	40%

Expenses:

The following expenses are inclusive of all operating expenses needed to operate a hotel. They include departmental expenses, real estate taxes, insurance, and undistributed operating expenses such as administrative & general, marketing, property maintenance, and utilities.

Building Class	Low % of Rooms Revenue	High % of Rooms Revenue	Average % of Rooms Revenue
A	50%	80%	70%
B	60%	80%	70%
C	40%	70%	60%

Cap Rate Ranges:

The following cap rates were researched from actual sales of hotel properties that were operating the time of sale. Sources are LoopNet, Catylist, Realty Rates market survey and internal confirmed sales.

Building Class	Low value	High value	Average value
A	8.0%	10%	9%
B	10%	12%	11%
C	10%	15%	14%

Car Washes-Self Service and Automated

There are two basic types of Car Washes. The self service type consists of which is open bays that the customer drives into and pays to use the equipment and water.

The second type is the automated Car Wash, where the car is pulled through a tunnel with washing brushes and machinery automatically cleaning the car. In the case of the assessment process, the equipment involved with this type of property is usually taxed as personal property. For that reason the values assigned to these structures reflect only the physical structure and extra features.

1. Sales Comparison Approach

The following chart shows price ranges for the two types of car washes. Prices per square foot were derived from actual sales researched from commercial property databases.

Car Wash type	Low value/SF	High value/SF	Average value/SF
Self Service	\$45.00	\$180.00	\$150.00
Automated	\$100.00	\$200.00	\$180.00

2. Income Approach

Rental Ranges:

The following rental ranges presume a triple net lease arrangement. That term presumes that the tenant pays all expenses, including interior and grounds maintenance, utilities, janitorial taxes and insurance. If the property is leased on a modified gross basis, the landlord typically covers only taxes, insurance and grounds maintenance. The following chart shows typical rents for the triple net basis.

Description	Rent Low/SF	Rent High/SF	Average Rent/SF	Lease basis
Self Service	\$2.00	\$15.00	\$10.00	Triple Net
Automated	10.00	\$18.00	\$15.00	Triple Net

Vacancy Allowance:

Description	Low value/%	High value/%	Average value/%
Self Service	10%	30%	10%
Automated	10%	40%	15%

Expenses:

Modified gross expenses are real estate taxes, insurance, management and roof and structural maintenance

Building Class	Expenses/SF-low	Expenses/SF-high	Average/SF	Lease basis
All classes	\$3.00	\$5.00	\$4.00	Modified gross

Cap Rate Ranges:

The following cap rates were researched from actual sales of self storage properties that were purchased based on the net income potential. Sources are LoopNet, Catylist, Costar, Realty Rates market survey and internal confirmed sales.

Description	Low value	High value	Average value
Self Service	8.0%	15%	11%
Automated	8.0%	12%	10%

Section 42 Apartments

According to the Machinery Act, Section 105-277.16 states that multi family housing designated as Section 42. Federal tax credit housing must be assessed by using the rent restricted income in place. The following statute was taken from Chapter 105 of the Machinery Act.

§ 105-277.16. A North Carolina low-income housing development to which the North Carolina Housing Finance Agency allocated a federal tax credit under section 42 of the Code is designated a special class of property under Article V, Section 2(2) of the North Carolina Constitution and must be appraised, assessed, and taxed in accordance with this section. The assessor must use the income approach as the method of valuation for property classified under this section and must take rent restrictions that apply to the property into consideration in determining the income attributable to the property. The assessor may not consider income tax credits received under section 42 of the Code or under G.S. 105-129.42 in determining the income attributable to the property. (2008-146, s. 3.1; 2008-187, s. 47.6.)

Effective gross income for Section 42 properties are assessed using the rent restricted income and then capitalizing the net income using the expense and capitalization rates from the parameters used in other non restricted multi family projects.

ADDENDUM

§ 105-286. Time for general reappraisal of real property.

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

(1) Schedule of Initial Reappraisals.

Division One - 1972: Avery, Camden, Cherokee, Cleveland, Cumberland, Guilford, Harnett, Haywood, Lee, Montgomery, Northampton, and Robeson.

Division Two - 1973: Caldwell, Carteret, Columbus, Currituck, Davidson, Gaston, Greene, Hyde, Lenoir, Madison, Orange, Pamlico, Pitt, Richmond, Swain, Transylvania, and Washington.

Division Three - 1974: Ashe, Buncombe, Chowan, Franklin, Henderson, Hoke, Jones, Pasquotank, Rowan, and Stokes.

Division Four - 1975: Alleghany, Bladen, Brunswick, Cabarrus, Catawba, Dare, Halifax, Macon, New Hanover, Surry, Tyrrell, and Yadkin.

Division Five - 1976: Bertie, Caswell, Forsyth, Iredell, Jackson, Lincoln, Onslow, Person, Perquimans, Rutherford, Union, Vance, Wake, Wilson, and Yancey.

Division Six - 1977: Alamance, Durham, Edgecombe, Gates, Martin, Mitchell, Nash, Polk, Randolph, Stanly, Warren, and Wilkes.

Division Seven - 1978: Alexander, Anson, Beaufort, Clay, Craven, Davie, Duplin, and Granville.

Division Eight - 1979: Burke, Chatham, Graham, Hertford, Johnston, McDowell, Mecklenburg, Moore, Pender, Rockingham, Sampson, Scotland, Watauga, and Wayne.

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

a. The third year following the year the county received the notice.

b. The eighth year following the year of the county's last reappraisal.

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

frequent reappraisal cycle designated in a resolution adopted under this subdivision continues in effect after a mandatory reappraisal required under subdivision (2) of this subsection unless the board of county commissioners adopts another resolution that designates a different date for the county's next reappraisal.

(b), (c) Repealed by Session Laws 2008-146, s. 1.1, effective July 1, 2009. (1939, c. 310, s. 300; 1941, c. 282, ss. 1, 11/2; 1943, c. 634, s. 1; 1945, c. 5; 1947, c. 50; 1949, c. 109; 1951, c. 847; 1953, c. 395; 1955, c. 1273; 1957, c. 1453, s. 1; 1959, c. 704, s. 1; 1971, c. 806, s. 1; 1973, c. 476, s. 193; 1987, c. 45, s. 1; 2008-146, s. 1.1.)

Article 13.

Standards for Appraisal and Assessment.

§ 105-283. Uniform appraisal standards.

All property, real and personal, shall as far as practicable be appraised or valued at its true value in money. When used in this Subchapter, the words "true value" shall be interpreted as meaning market value, that is, the price estimated in terms of money at which the property would change hands between a willing and financially able buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of all the uses to which the property is adapted and for which it is capable of being used. For the purposes of this section, the acquisition of an interest in land by an entity having the power of eminent domain with respect to the interest acquired shall not be considered competent evidence of the true value in money of comparable land. (1939, c. 310, s. 500; 1953, c. 970, s. 5; 1955, c. 1100, s. 2; 1959, c. 682; 1967, c. 892, s. 7; 1969, c. 945, s. 1; 1971, c. 806, s. 1; 1973, c. 695, s. 11; 1977, 2nd Sess., c. 1297.)

Article 19.

Administration of Real and Personal Property Appraisal.

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

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

- (1) In determining the true value of land, to consider as to each tract, parcel, or lot separately listed at least its advantages and disadvantages as to location; zoning; quality of soil; waterpower; water privileges; dedication as a nature preserve; conservation or preservation agreements; mineral, quarry, or other valuable deposits; fertility; adaptability for agricultural, timber-producing, commercial, industrial, or other uses; past income; probable future income; and any other factors that may affect its value except growing crops of a seasonal or annual nature.
- (2) In determining the true value of a building or other improvement, to consider at least its location; type of construction; age; replacement cost; cost; adaptability for residence, commercial, industrial, or other uses; past income; probable future income; and any other factors that may affect its value.
- (3) To appraise partially completed buildings in accordance with the degree of completion on January 1.

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

- (1) Uniform schedules of values, standards, and rules to be used in appraising real property at its true value and at its present-use value are prepared and are sufficiently detailed to enable those making appraisals to adhere to them in appraising real property.
- (2) Repealed by Session Laws 1981, c. 678, s. 1.
- (3) A separate property record be prepared for each tract, parcel, lot, or group of contiguous lots, which record shall show the information required for compliance with the provisions of G.S. 105-309 insofar as they deal with real property, as well as that required by this section. (The purpose of this subdivision is to require that individual property records be maintained in sufficient detail to enable property owners to ascertain the method, rules, and standards of value by which property is appraised.)
- (4) The property characteristics considered in appraising each lot, parcel, tract, building, structure and improvement, in accordance with the schedules of values, standards, and rules, be accurately recorded on the appropriate property record.
- (5) Upon the request of the owner, the board of equalization and review, or the board of county commissioners, any particular lot, parcel, tract, building, structure or improvement be actually visited and observed to verify the accuracy of property characteristics on record for that property.
- (6) Each lot, parcel, tract, building, structure and improvement be separately appraised by a competent appraiser, either one appointed under the provisions of G.S. 105-296 or one employed under the provisions of G.S. 105-299.

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

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

- (1) The assessor shall submit the proposed schedules, standards, and rules to the board of county commissioners not less than 21 days before the meeting at which they will be considered by the board. On the same day that they are submitted to the board for its consideration, the assessor shall file a copy of the proposed schedules, standards, and rules in his office where they shall remain available for public inspection.
- (2) Upon receipt of the proposed schedules, standards, and rules, the board of commissioners shall publish a statement in a newspaper having general circulation in the county stating:
 - a. That the proposed schedules, standards, and rules to be used in appraising real property in the county have been submitted to the board of county commissioners and are available for public inspection in the assessor's office; and
 - b. The time and place of a public hearing on the proposed schedules, standards, and rules that shall be held by the board of county commissioners at least seven days before adopting the final schedules, standards, and rules.
- (3) When the board of county commissioners approves the final schedules, standards, and rules, it shall issue an order adopting them. Notice of this order shall be published once a week for four successive weeks in a newspaper having general circulation in the county, with the last publication being not less than seven days before the last day for challenging the validity of the schedules, standards, and rules by appeal to the Property Tax Commission. The notice shall state:
 - a. That the schedules, standards, and rules to be used in the next scheduled reappraisal of real property in the county have been adopted and are open to examination in the office of the assessor; and
 - b. That a property owner who asserts that the schedules, standards, and rules are invalid may except to the order and appeal therefrom to the Property Tax Commission within 30 days of the date when the notice of the order adopting the schedules, standards, and rules was first published.

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

§ 105-287. Changing appraised value of real property in years in which general reappraisal is not made.

(a) In a year in which a general reappraisal of real property in the county is not made under G.S. 105-286, the property shall be listed at the value assigned when last appraised unless the value is changed in accordance with this section. The assessor shall increase or decrease the appraised value of real property, as determined under G.S. 105-286, to recognize a change in the property's value resulting from one or more of the following reasons:

- (1) Correct a clerical or mathematical error.
- (2) Correct an appraisal error resulting from a misapplication of the schedules, standards, and rules used in the county's most recent general reappraisal.
- (2a) Recognize an increase or decrease in the value of the property resulting from a conservation or preservation agreement subject to Article 4 of Chapter 121 of the General Statutes, the Conservation and Historic Preservation Agreements Act.
- (2b) Recognize an increase or decrease in the value of the property resulting from a physical change to the land or to the improvements on the land, other than a change listed in subsection (b) of this section.
- (2c) Recognize an increase or decrease in the value of the property resulting from a change in the legally permitted use of the property.
- (3) Recognize an increase or decrease in the value of the property resulting from a factor other than one listed in subsection (b).

(b) In a year in which a general reappraisal of real property in the county is not made, the assessor may not increase or decrease the appraised value of real property, as determined under G.S. 105-286, to recognize a change in value caused by:

- (1) Normal, physical depreciation of improvements;
- (2) Inflation, deflation, or other economic changes affecting the county in general; or
- (3) Betterments to the property made by:
 - a. Repainting buildings or other structures;
 - b. Terracing or other methods of soil conservation;
 - c. Landscape gardening;
 - d. Protecting forests against fire; or
 - e. Impounding water on marshland for non-commercial purposes to preserve or enhance the natural habitat of wildlife.

(c) An increase or decrease in the appraised value of real property authorized by this section shall be made in accordance with the schedules, standards, and rules used in the county's most recent general reappraisal. An increase or decrease in appraised value made under this section is effective as of January 1 of the year in which it is made and is not retroactive. The reason for an increase or decrease in appraised value made under this section need not be under the control of or at the request of the owner of the affected property. This section does not modify or restrict the provisions of G.S. 105-312 concerning the appraisal of discovered property.

(d) Notwithstanding subsection (a), if a tract of land has been subdivided into lots and more than five acres of the tract remain unsold by the owner of the tract, the assessor may appraise the unsold portion as land acreage rather than as lots. A tract is considered subdivided into lots when the lots are located on streets laid out and open for travel and the lots have been sold or offered for sale as lots since the last appraisal of the property.

§ 105-299. (Effective until July 1, 2013 – see notes) Employment of experts.

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

§ 105-299. (Effective July 1, 2013 until July 1, 2015 – see notes) Employment of experts.

The board of county commissioners may employ appraisal firms, mapping firms or other persons or firms having expertise in one or more of the duties of the assessor to assist the assessor in the performance of these duties. The county may also assign to county agencies, or contract with State or federal agencies for, any duties involved with the approval or auditing of use-value accounts. The county may make available to these persons any information it has that will facilitate the performance of a contract entered into pursuant to this section. Persons receiving this information are subject to the provisions of G.S. 105-289(e) and G.S. 105-259 regarding the use and disclosure of information provided to them by the county. Any person employed by an appraisal firm whose duties include the appraisal of property for the county must be required to demonstrate that he or she is qualified to carry out these duties by achieving a passing grade on a comprehensive examination in the appraisal of property administered by the Department of Revenue. In the employment of these firms, primary consideration must be given to the firms registered with the Department of Revenue pursuant to G.S. 105-289(i). A copy of the specifications to be submitted to potential bidders and a copy of the proposed contract may be sent by the board to the Department of Revenue for review before the invitation or acceptance of any bids. Contracts for the employment of these firms or persons are contracts for personal services and are not subject to the provisions of Article 8, Chapter 143, of the General Statutes. If the board of county commissioners employs any person or firm to assist the assessor in the performance of the assessor's duties, the person or firm may not be compensated, in whole or in part, on a contingent fee basis or any other similar method that may impair the assessor's independence or the perception of the assessor's independence by the public.

§ 105-299. (Effective July 1, 2015 – see notes) Employment of experts.

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

Article 14.

Time for Listing and Appraising Property for Taxation.

§ 105-285. Date as of which property is to be listed and appraised.

(a) Annual Listing Required. – All property subject to ad valorem taxation shall be listed annually.

(b) Personal Property; General Rule. – Except as otherwise provided in this Chapter, the value, ownership, and place of taxation of personal property, both tangible and intangible, shall be determined annually as of January 1.

(c) Repealed by Session Laws 1987, c. 813, s. 12.

(d) Real Property. – The value of real property shall be determined as of January 1 of the years prescribed by G.S. 105-286 and G.S. 105-287. The ownership of real property shall be determined annually as of January 1, except in the following situation: When any real property is acquired after January 1, but prior to July 1, and the property was not subject to taxation on January 1 on account of its exempt status, it shall be listed for taxation by the transferee as of the date of acquisition and shall be appraised in accordance with its true value as of January 1 preceding the date of acquisition; and the property shall be taxed for the fiscal year of the taxing unit beginning on July 1 of the year in which it is acquired. The person in whose name such property is listed shall have the right to appeal the listing, appraisal, and assessment of the property in the same manner as that provided for listings made as of January 1.

In the event real property exempt as of January 1 is, prior to July 1, acquired from a governmental unit that by contract is making payments in lieu of taxes to the taxing unit for the fiscal period beginning July 1 of the year in which the property is acquired, the tax on such property for the fiscal period beginning on July 1 immediately following acquisition shall be one half of the amount of the tax that would have been imposed if the property had been listed for taxation as of January 1.

§ 105-277.7. Use-Value Advisory Board.

(a) Creation and Membership. – The Use-Value Advisory Board is established under the supervision of the Agricultural Extension Service of North Carolina State University. The Director of the Agricultural Extension Service of North Carolina State University shall serve as the chair of the Board. The Board shall consist of the following additional members, to serve ex officio:

- (1) A representative of the Department of Agriculture and Consumer Services, designated by the Commissioner of Agriculture.
- (2) A representative of the North Carolina Forest Service of the Department of Agriculture and Consumer Services, designated by the Director of that Division.
- (3) A representative of the Agricultural Extension Service at North Carolina Agricultural and Technical State University, designated by the Director of the Extension Service.
- (4) A representative of the North Carolina Farm Bureau Federation, Inc., designated by the President of the Bureau.
- (5) A representative of the North Carolina Association of Assessing Officers, designated by the President of the Association.
- (6) The Director of the Property Tax Division of the North Carolina Department of Revenue or the Director's designee.
- (7) A representative of the North Carolina Association of County Commissioners, designated by the President of the Association.
- (8) A representative of the North Carolina Forestry Association, designated by the President of the Association.

(b) Staff. – The Agricultural Extension Service at North Carolina State University must provide clerical assistance to the Board.

(c) Duties. – The Board must annually submit to the Department of Revenue a recommended use-value manual. In developing the manual, the Board may consult with federal and State agencies as needed. The manual must contain all of the following:

- (1) The estimated cash rental rates for agricultural lands and horticultural lands for the various classes of soils found in the State. The rental rates must recognize the productivity levels by class of soil or geographic area, and the crop as either agricultural or horticultural. The rental rates must be based on the rental value of the land to be used for agricultural or horticultural purposes when those uses are presumed to be the highest and best use of the land. The recommended rental rates may be established from individual county studies or from contracts with federal or State agencies as needed.
- (2) The recommended net income ranges for forestland furnished to the Board by the Forestry Section of the North Carolina Cooperative Extension Service. These net income ranges may be based on up to six classes of land within each Major Land Resource Area designated by the United States Soil Conservation Service. In developing these ranges, the Forestry Section must consider the soil productivity and indicator tree species or stand type, the average stand establishment and annual management costs, the average rotation length and timber yield, and the average timber stumpage prices.
- (3) The capitalization rates adopted by the Board prior to February 1 for use in capitalizing incomes into values. The capitalization rate for forestland shall be nine percent (9%). The capitalization rate for agricultural land and horticultural land must be no less than six percent (6%) and no more than seven percent (7%). The incomes must be in the form of cash rents for agricultural lands and horticultural lands and net incomes for forestlands.
- (4) The value per acre adopted by the Board for the best agricultural land. The value may not exceed one thousand two hundred dollars (\$1,200).
- (5) Recommendations concerning any changes to the capitalization rate for agricultural land and horticultural land and to the maximum value per acre for the best agricultural land and horticultural land based on a calculation to be determined by the Board. The Board shall annually report these recommendations to the Revenue Laws Study Committee and to the President Pro Tempore of the Senate and the Speaker of the House of Representatives.
- (6) Recommendations concerning requirements for horticultural land used to produce evergreens intended for use as Christmas trees when requested to do so by the Department.

§ 105-284. Uniform assessment standard.

(a) Except as otherwise provided in this section, all property, real and personal, shall be assessed for taxation at its true value or use value as determined under G.S. 105-283 or G.S. 105-277.6, and taxes levied by all counties and municipalities shall be levied uniformly on assessments determined in accordance with this section.

(b) The assessed value of public service company system property subject to appraisal by the Department of Revenue under G.S. 105-335(b)(1) shall be determined by applying to the allocation of such value to each county a percentage to be established by the Department of Revenue. The percentage to be applied shall be either:

- (1) The median ratio established in sales assessment ratio studies of real property conducted by the Department of Revenue in the county in the year the county conducts a reappraisal of real property and in the fourth and seventh years thereafter; or
- (2) A weighted average percentage based on the median ratio for real property established by the Department of Revenue as provided in subdivision (1) and a one hundred percent (100%) ratio for personal property. No percentage shall be applied in a year in which the median ratio for real property is ninety percent (90%) or greater.

If the median ratio for real property in any county is below ninety percent (90%) and if the county assessor has provided information satisfactory to the Department of Revenue that the county follows accepted guidelines and practices in the assessment of business personal property, the weighted average percentage shall be applied to public service company property. In calculating the weighted average percentage, the Department shall use the assessed value figures for real and personal property reported by the county to the Local Government Commission for the preceding year. In any county which fails to demonstrate that it follows accepted guidelines and practices, the percentage to be applied shall be the median ratio for real property. The percentage established in a year in which a sales assessment ratio study is conducted shall continue to be applied until another study is conducted by the Department of Revenue.

(c) Notice of the median ratio and the percentage to be applied for each county shall be given by the Department of Revenue to the chairman of the board of commissioners not later than April 15 of the year for which it is to be effective. Notice shall also be given at the same time to the public service companies whose property values are subject to adjustment under this section. Either the county or an affected public service company may challenge the real property ratio or the percentage established by the Department of Revenue by giving notice of exception within 30 days after the mailing of the Department's notice. Upon receipt of such notice of exception, the Department shall arrange a conference with the challenging party or parties to review the matter. Following the conference, the Department shall notify the challenging party or parties of its final determination in the matter. Either party may appeal the Department's determination to the Property Tax Commission by giving notice of appeal within 30 days after the mailing of the Department's decision.

(d) Property that is in a development financing district and that is subject to an agreement entered into pursuant to G.S. 159-108 shall be assessed at its true value or at the minimum value set out in the agreement, whichever is greater.

§ 105-277.6. Agricultural, horticultural and forestland – Appraisal; computation of deferred tax.

(a) In determining the amount of the deferred taxes herein provided, the assessor shall use the appraised valuation established in the county's last general revaluation except for any changes made under the provisions of G.S. 105-287.

(b) In revaluation years, as provided in G.S. 105-286, all property entitled to classification under G.S. 105-277.3 shall be reappraised at its true value in money and at its present use value as of the effective date of the revaluation. The two valuations shall continue in effect and shall provide the basis for deferred taxes until a change in one or both of the appraisals is required by law. The present use-value schedule, standards, and rules shall be used by the tax assessor to appraise property receiving the benefit of this classification until the next general revaluation of real property in the county as required by G.S. 105-286.

(c) Repealed by Session Laws 1987, c. 295, s. 2. (1973, c. 709, s. 1; 1975, c. 746, ss. 9, 10; 1987, c. 45, s. 1, c. 295, s. 2.)

Article 30.

General Provisions.

§ 105-394. Immaterial irregularities.

Immaterial irregularities in the listing, appraisal, or assessment of property for taxation or in the levy or collection of the property tax or in any other proceeding or requirement of this Subchapter shall not invalidate the tax imposed upon any property or any process of listing, appraisal, assessment, levy, collection, or any other proceeding under this Subchapter.

The following are examples of immaterial irregularities:

- (1) The failure of list takers, tax supervisors, or members of boards of equalization and review to take and subscribe the oaths required of them.
- (2) The failure to sign the affirmation required on the abstract.
- (3) The failure to list, appraise, or assess any property for taxation or to levy any tax within the time prescribed by law.
- (4) The failure of the board of equalization and review to meet or to adjourn within the time prescribed by law or to give any required notice of its meetings and adjournment.
- (5) Any defect in the description upon any abstract, tax receipt, tax record, notice, advertisement, or other document, of real or personal property, if the description be sufficient to enable the tax collector or any person interested to determine what property is meant by the description. (In such cases the tax supervisor or tax collector may correct the description on the documents bearing the defective description, and the correct description shall be used in any documents later issued in tax foreclosure proceedings authorized by this Subchapter.)
- (6) The failure of the collector to advertise any tax lien.
- (7) Repealed by Session Laws 1983, c. 808, s. 11.
- (8) Any irregularity or informality in the order or manner in which tax liens on real property are offered for sale.
- (9) The failure to make or serve any notice mentioned in this Subchapter.
- (10) The omission of a dollar mark or other designation descriptive of the value of figures upon any document required by this Subchapter.
- (11) Any other immaterial informality, omission, or defect on the part of any person in any proceeding or requirement of this Subchapter. (1939, c. 310, s. 1715; 1965, c. 192, ss. 1, 2; 1971, c. 806, s. 1; 1983, c. 808, ss. 10, 11.)

MINUTES OF THE BOARD OF
ROWAN COUNTY COMMISSIONERS
AUGUST 7, 1995 - 9:00 A.M.
SETH MURDOCH AUDITORIUM, AGRICULTURE BUILDING

PRESENT: Todd Arey, Chairman
Thomas M. Webb, Vice-Chairman
J. Newton Cohen, Member
Steve Blount, Member
Jim Neely, Member

The County Manager, County Attorney, Finance Director and Clerk to the Board were also in attendance. Chairman Arey called the meeting to order and gave the invocation.

ADDITIONS TO THE AGENDA:

* Commissioner Webb relayed the names of winners from the Rowan County junior dairy show that was held August 2, 1995, as attached to these minutes.

* Chairman Arey stated he wanted to add a discussion and vote of the 911 surcharge that had been tabled from the previous meeting. He added that he would also like to have a short closed session to discuss personnel.

CONSIDERATION OF CONSENT AGENDA:

Chairman Arey asked if there was any discussion among the Board concerning the consent agenda items. Commissioner Blount moved to approve the items as submitted. Commissioner Webb seconded and the motion passed by a unanimous vote. The consent agenda items consisted of:

- a) approval of minutes from 7/17/95 and 7/31/95.
- b) approval of refunds totaling \$292.09
- c) Tax Collector's report
- d) approval of unanimous petitions for the road name changes of *Fellowship Park Road* and *Water Oak Lane*.

RECOGNITION OF STATE 3A CHAMPIONS-EAST ROWAN BASEBALL TEAM:

Chairman Arey recognized the East Rowan Baseball Team for winning the State 3A championship. The Board presented each player with a certificate of appreciation and congratulated them for their hard work.

PUBLIC HEARING: ROAD NAME CHANGES:

Commissioner Webb moved to open the public hearing for comments on proposed road name changes. Commissioner Cohen seconded and the motion passed by a unanimous vote. The road name changes were Allman Farm Road, Field Trace Road, Red Rose Lane, Wal-Hollow Lane, and Wild Bill Lane. Chairman Arey called for public comment and there being none offered, Commissioner Blount moved to close the public hearing. Commissioner Webb seconded and the motion passed unanimously. Commissioner Blount then moved to approve the road name changes. Commissioner Neely seconded and the motion passed by a unanimous vote.

DISCUSSION ON COURTHOUSE REQUESTS:

Clerk of Court Terry Osborne read a prepared letter to the Board concerning space needs and facility repairs needed for the existing court facilities. He stated he was concerned over the structural damage sustained during basement flooding and lack of working space. Chairman Arey stated that the Board had not wanted to work on the court facility until the Justice Center was completed. He stated he would like to determine how the city could be forced to pay a fair share for use of the building. Commissioner Blount stated the County needed to meet with all interested parties in determining an operation plan and a plan of action for the facilities. He added that an alarm system or backup pump should be added to control the possibility of the basement flooding. Commissioner Blount then moved to hold joint meeting to determine a plan for space requirements and a facility use plan. Commissioner Neely seconded and the motion passed unanimously. Chairman Arey asked if the meeting should include the full Board. Commissioner Blount stated he did not feel the entire Board would be required and perhaps the building committee could meet.

CONSIDERATION OF 911 SURCHARGE:

Chairman Arey asked if there was discussion among the Board concerning the 911 surcharge as a means of paying for the 911 phone lines and to update the mapping system tied into the 911 system. Commissioner Webb noted that the mapping update would only be for mapping tied to 911. Commissioner Blount added that the mapping would be a great benefit to the community in many ways other than 911. Mr. Russell then gave an explanation of the 911 system and a sequence of past events leading to the current request. Commissioner Neely asked

if the \$0.50 portion of the charge would be dropped after the mapping is paid for. Mr. Russell answered yes the Board would be able to delete that portion if it wished. Commissioner Neely stated he would like that to be part of the motion. The Board was then given a chart of the necessary charges throughout the next five years. The chart showed a decrease in fees to a final charge of \$0.19. Chairman Arey moved to approve the 911 charges. Commissioner Blount seconded. Commissioner Neely asked for the motion to include taking \$0.50 off the charge when the mapping is complete. Chairman Arey stated the Board should address the charge each year during the budget and determine the rate. He then added to his motion that it was the intent of this Board review the charge when the mapping is completed. Commissioner Cohen offered an amendment to the motion to attach a \$0.25 surcharge to the telephone bills and use fund balance to pay for the mapping, replacing the amount used from fund balance with next year's growth. Commissioner Cohen's amendment died for lack of a second. Chairman Arey then called for question on his motion and the motion passed by a vote of 4/1 with Commissioner Cohen voting "no".

REPORT FROM BOARD OF EQUALIZATION & REVIEW:

Tax Assessor Jerry Rowland gave the Board final figures from the revaluation and boards of equalization and review. Commissioner Webb stated he felt the boards went very well having served for many of the meetings. He added that in the future the members should be appointed earlier in the process to allow them to become familiar with the revaluation process. Mr. Rowland requested approval of a resolution to advance the revaluation schedule to 1995 and then every four years thereafter. Chairman Arey moved to approve the resolution. Commissioner Blount seconded and the motion passed unanimously.

UPDATE ON TAX DISCOVERY:

Jerry Rowland, Joe Williams and Phil Evans reviewed with the Board the progress of a tax discovery for a local company. Mr. Evans explained how the findings were reached and stated they would now issue a final discovery and which time the company may begin formal appeals of the amount due to the County. Mr. Evans stated the discovery found approximately 1.6 million in back taxes with penalties and interest owed. Mr. Evans recommended the Board seek outside legal counsel in someone who is trained for this specific area of the law. John Holshouser agreed with Mr. Evans and told the Board he would work as far as he could on the case and when he felt he had reached his limit he would recommend to the Board to seek the outside counsel.

PROPOSED NOISE ORDINANCE CONSIDERATIONS:

Ed Muire reviewed the current noise ordinance with the Board and recommended five possible solutions to make the ordinance enforceable. The five

recommendations were: develop decibel based standards for noise control, designating the Sheriff's Office as the office responsible for enforcement, define penalties for violation, set criteria for permits to exceed, determine exemptions from the ordinance. Staff recommended drafting a new ordinance and consulting with the Sheriff's Office then presenting it to the Board. Commissioner Blount stated it seemed that the biggest issue was grandfathering and who should be included. Commissioner Neely added that the ordinance needed specific rules for grandfathering some types of businesses. The Board referred the ordinance to staff for was as requested.

RECOMMENDATION FOR JUNK YARD/CAR ORDINANCE:

Planner Marion Lytle gave a brief overview of the ordinance reviewing the definitions for junked and abandoned cars. Commissioner Webb stated the ordinance needed a time period to allow cars to be parked in front of a building because someone may be waiting on a part. Mr. Lytle stated staff could add a time frame for car restoration. He reiterated that the ordinance would mainly be enforced by complaint. Commissioner Neely stated he would like to have the opportunity to study the document. The Board agreed they would hold a worksession to study the ordinance and set a public hearing at that time.

ARTHRITIS POOL PROGRAM FEE INCREASE:

Health Director John Shaw discussed with the Board state cuts to arthritis programs. He stated the county would lose \$14,991 in the state funds. The Health Board proposed asking the participants to donate \$2.50 each week for the twice a week program to help compensate for the loss. He stated the county could not charge the participants because the program receives federal funds. He asked the Board for permission to proceed with the first ten week session to determine the feasibility of the proposal. The Board agreed by consensus to the test for the first session.

REQUEST FOR SUPPORT OF SPENCER SHOPS CENTENNIAL CELEBRATION:

Ms. Kay Saintsing reviewed with the Board the planned celebration events for the Spencer Shops centennial anniversary. She stated the centennial coordination group was seeking a contribution from the county to become a partner in the celebration. Chairman Arey thanked Ms. Saintsing and stated the Board would accept the information and determine at a later date the amount of a contribution.

PERSONNEL BOARD POLICY REVIEW:

A revised personnel policy was presented to the Board. The policy would allow the personnel board to review reclassifications, salary adjustments, hiring new employees above step 4, and the review of personnel policies. Commissioner Neely stated he supported the new policy because he did not feel the personnel polices covered should be a function of the full board. Chairman Arey added that the Board of Commissioners would set the policy and the personnel board would implement the policy. Commissioner Blount moved to adopt the policy change. Commissioner Neely seconded and the motion passed by a vote of 4/1 with Commissioner Cohen voting "no".

ROAD PAVING POLICY:

Commissioner Blount stated that he and Commissioner Neely had met with representatives from Kannapolis Country Estates and determined that they should work with the state and the state had seemed to be taking more interest in helping. He explained that the county had exhausted all efforts to resolve the problem and the Board agreed by consensus to permanently table this issue.

COMMUNITY BUILDING USE PROPOSALS:

Commissioner Cohen asked to table discussions on uses for the Community Building until space needs at the Courthouse were determined.

BOARD APPOINTMENTS

Chairman Arey asked to delay Board appointments. The Board agreed by consensus, however, to removed George Bender from the Nursing Home Advisory Board at the request of it's chairman.

RESULTS OF AIRPORT USE SURVEY:

Mr. Russell reviewed the results from an survey sent to transient and based airport users. Commissioner Blount stated the Board needed to address all of the issues at the airport including the FBO and the Airport Board. Chairman Arey stated he would like to have a worksession to determine what the Board wants from the airport. The Board agreed by consensus to meet at 2:00 p.m. on August 21, 1995.

* John Holshouser told the Board that the legal fees and litigation fees involved in the Elvis King vs. Rowan County had been lowered but the final ruling had not been made.

Chairman Arey moved to enter closed session to discuss personnel. Commissioner Blount seconded the motion and it passed unanimously. Upon conclusion of closed session Commissioner Webb moved to return to open session.

Commissioner Blount seconded and the motion passed by a unanimous vote. Commissioner Webb then moved to adjourn the meeting. Commissioner Blount seconded the motion and it passed unanimously.

Respectfully Submitted,

Kelly Dickinson, Clerk to the Board

STANDARD 5: MASS APPRAISAL, DEVELOPMENT

1036 **In developing a mass appraisal, an appraiser must be aware of, understand, and correctly employ**
 1037 **those recognized methods and techniques necessary to produce and communicate credible mass**
 1038 **appraisals.**

FAQ

See also
 FAQ 117-
 241

1039 Comment: STANDARD 5 applies to all mass appraisals of real or personal property
 1040 regardless of the purpose or use of such appraisals.⁵³ STANDARD 5 is directed toward the substantive
 1041 aspects of developing credible analyses, opinions, and conclusions in the mass appraisal of properties. The
 1042 reporting and jurisdictional exceptions applicable to public mass appraisals prepared for ad valorem taxation
 1043 do not apply to mass appraisals prepared for other purposes.

1044 A mass appraisal includes:

- 1045 1) identifying properties to be appraised;
- 1046 2) defining market area of consistent behavior that applies to properties;
- 1047 3) identifying characteristics (supply and demand) that affect the creation of value in that market area;
- 1048 4) developing a model structure that reflects the relationship among the characteristics affecting value in
 1049 the market area;
- 1050 5) calibrating the model structure to determine the contribution of the individual characteristics affecting value;
- 1051 6) applying the conclusions reflected in the model to the characteristics of the property(ies) being
 1052 appraised; and
- 1053 7) reviewing the mass appraisal results.

1054 The JURISDICTIONAL EXCEPTION RULE may apply to several sections of STANDARD 5 because ad valorem
 1055 tax administration is subject to various state, county, and municipal laws.

1056 **STANDARDS RULE 5-1**

1057 **In developing a mass appraisal, an appraiser must:**

- 1058 **(a) be aware of, understand, and correctly employ those recognized methods and techniques necessary to**
 1059 **produce a credible mass appraisal;**

1060 Comment: Mass appraisal provides for a systematic approach and uniform application of appraisal
 1061 methods and techniques to obtain estimates of value that allow for statistical review and analysis of results.

1062 This requirement recognizes that the principle of change continues to affect the manner in which appraisers
 1063 perform mass appraisals. Changes and developments in the real property and personal property fields have
 1064 a substantial impact on the appraisal profession.

1065 To keep abreast of these changes and developments, the appraisal profession is constantly reviewing
 1066 and revising appraisal methods and techniques and devising new methods and techniques to meet
 1067 new circumstances. For this reason it is not sufficient for appraisers to simply maintain the skills and the
 1068 knowledge they possess when they become appraisers. Each appraiser must continuously improve his or her
 1069 skills to remain proficient in mass appraisal.

- 1070 **(b) not commit a substantial error of omission or commission that significantly affects a mass appraisal; and**

1071 Comment: An appraiser must use sufficient care to avoid errors that would significantly affect his or her
 1072 opinions and conclusions. Diligence is required to identify and analyze the factors, conditions, data, and other
 1073 information that would have a significant effect on the credibility of the assignment results.

⁵³ See Advisory Opinion 32, *Ad Valorem Property Tax Appraisal and Mass Appraisal Assignments*.

(c) not render a mass appraisal in a careless or negligent manner.	1074
<i>Comment:</i> Perfection is impossible to attain, and competence does not require perfection. However, an appraiser must not render appraisal services in a careless or negligent manner. This Standards Rule requires an appraiser to use due diligence and due care.	1075 1076 1077
STANDARDS RULE 5-2	1078
In developing a mass appraisal, an appraiser must:	1079
(a) identify the client and other intended users;⁵⁴	1080
<i>Comment:</i> It is the appraiser's responsibility to identify the client and other intended users. In ad valorem mass appraisal, the assessor, or party responsible for certification of the assessment or tax roll is required to apply the relevant law or statute and identify the client, and other intended users (if any).	1081 1082 1083
(b) identify the intended use of the appraisal;⁵⁵	1084
<i>Comment:</i> An appraiser must not allow the intended use of an assignment or a client's objectives to cause the assignment results to be biased.	1085 1086
(c) identify the type and definition of value, and, if the value opinion to be developed is market value, ascertain whether the value is to be the most probable price:	1087 1088
(i) in terms of cash; or	1089
(ii) in terms of financial arrangements equivalent to cash; or	1090
(iii) in such other terms as may be precisely defined; and	1091
(iv) if the opinion of value is based on non-market financing or financing with unusual conditions or incentives, the terms of such financing must be clearly identified and the appraiser's opinion of their contributions to or negative influence on value must be developed by analysis of relevant market data;	1092 1093 1094 1095
(d) identify the effective date of the appraisal;⁵⁶	1096
(e) identify the characteristics of the properties that are relevant to the type and definition of value and intended use,⁵⁷ including:	1097 1098
(i) the group with which a property is identified according to similar market influence;	1099
(ii) the appropriate market area and time frame relative to the property being valued; and	1100
(iii) their location and physical, legal, and economic characteristics;	1101
<i>Comment:</i> The properties must be identified in general terms, and each individual property in the universe must be identified, with the information on its identity stored or referenced in its property record.	1102 1103
When appraising proposed improvements, an appraiser must examine and have available for future examination, plans, specifications, or other documentation sufficient to identify the extent and character of the proposed improvements. ⁵⁸	1104 1105 1106
Ordinarily, proposed improvements are not appraised for ad valorem tax purposes. Appraisers, however, are sometimes asked to provide opinions of value of proposed improvements so that developers can estimate future property tax burdens. Sometimes units in condominiums and planned unit developments are sold with an interest in un-built community property, the pro rata value of which, if any, must be considered in the analysis of sales data.	1107 1108 1109 1110 1111

54 See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users*.

55 See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users*.

56 See Advisory Opinion 34, *Retrospective and Prospective Value Opinions*.

57 See Advisory Opinion 23, *Identifying the Relevant Characteristics of the Subject Property of a Real Property Appraisal Assignment*, if applicable.

58 See Advisory Opinion 17, *Appraisals of Real Property with Proposed Improvements*, if applicable.

- 1112 **(f) identify the characteristics of the market that are relevant to the purpose and intended use of the mass**
1113 **appraisal including:**
- 1114 **(i) location of the market area;**
1115 **(ii) physical, legal, and economic attributes;**
1116 **(iii) time frame of market activity; and**
1117 **(iv) property interests reflected in the market;**
- 1118 **(g) in appraising real property or personal property:**
- 1119 **(i) identify the appropriate market area and time frame relative to the property being valued;**
1120 **(ii) when the subject is real property, identify and consider any personal property, trade fixtures, or**
1121 **intangibles that are not real property but are included in the appraisal;**
1122 **(iii) when the subject is personal property, identify and consider any real property or intangibles that**
1123 **are not personal property but are included in the appraisal;**
1124 **(iv) identify known easements, restrictions, encumbrances, leases, reservations, covenants, contracts,**
1125 **declarations, special assessments, ordinances, or other items of similar nature; and**
1126 **(v) identify and analyze whether an appraised fractional interest, physical segment or partial holding**
1127 **contributes pro rata to the value of the whole;**
- 1128 Comment: The above requirements do not obligate the appraiser to value the whole when the subject
1129 of the appraisal is a fractional interest, physical segment, or a partial holding. However, if the value
1130 of the whole is not identified, the appraisal must clearly reflect that the value of the property being
1131 appraised cannot be used to develop the value opinion of the whole by mathematical extension.
- 1132 **(h) analyze the relevant economic conditions at the time of the valuation, including market acceptability of**
1133 **the property and supply, demand, scarcity, or rarity;**
- 1134 **(i) identify any extraordinary assumptions and any hypothetical conditions necessary in the assignment; and**
- 1135 Comment: An extraordinary assumption may be used in an assignment only if:
- 1136 • it is required to properly develop credible opinions and conclusions;
 - 1137 • the appraiser has a reasonable basis for the extraordinary assumption;
 - 1138 • use of the extraordinary assumption results in a credible analysis; and
 - 1139 • the appraiser complies with the disclosure requirements set forth in USPAP for extraordinary assumptions.
- 1140 A hypothetical condition may be used in an assignment only if:
- 1141 • use of the hypothetical condition is clearly required for legal purposes, for purposes of reasonable
 - 1142 analysis, or for purposes of comparison;
 - 1143 • use of the hypothetical condition results in a credible analysis; and
 - 1144 • the appraiser complies with the disclosure requirements set forth in USPAP for hypothetical conditions.
- 1145 **(j) determine the scope of work necessary to produce credible assignment results in accordance with the**
1146 **SCOPE OF WORK RULE.⁵⁹**

⁵⁹ See Advisory Opinion 28, *Scope of Work Decision, Performance, and Disclosure*, and Advisory Opinion 29, *An Acceptable Scope of Work*.

STANDARDS RULE 5-3**When necessary for credible assignment results, an appraiser must:**

- (a) **in appraising real property, identify and analyze the effect on use and value of the following factors:** 1149
existing land use regulations, reasonably probable modifications of such regulations, economic supply 1150
and demand, the physical adaptability of the real estate, neighborhood trends, and highest and best use 1151
of the real estate; and 1152

Comment: This requirement sets forth a list of factors that affect use and value. In considering neighborhood 1153
 trends, an appraiser must avoid stereotyped or biased assumptions relating to race, age, color, gender, or 1154
 national origin or an assumption that race, ethnic, or religious homogeneity is necessary to maximize value 1155
 in a neighborhood. Further, an appraiser must avoid making an unsupported assumption or premise about 1156
 neighborhood decline, effective age, and remaining life. In considering highest and best use, an appraiser 1157
 must develop the concept to the extent required for a proper solution to the appraisal problem. 1158

- (b) **in appraising personal property, identify and analyze the effects on use and value of industry trends,** 1159
value-in-use, and trade level of personal property. Where applicable, analyze the current use and 1160
alternative uses to encompass what is profitable, legal, and physically possible, as relevant to the type 1161
and definition of value and intended use of the appraisal. Personal property has several measurable 1162
marketplaces; therefore, the appraiser must define and analyze the appropriate market consistent with 1163
the type and definition of value. 1164

Comment: The appraiser must recognize that there are distinct levels of trade and each may generate its 1165
 own data. For example, a property may have a different value at a wholesale level of trade, a retail level of 1166
 trade, or under various auction conditions. Therefore, the appraiser must analyze the subject property within 1167
 the correct market context. 1168

STANDARDS RULE 5-4**In developing a mass appraisal, an appraiser must:**

- (a) **identify the appropriate procedures and market information required to perform the appraisal, including** 1171
all physical, functional, and external market factors as they may affect the appraisal; 1172

Comment: Such efforts customarily include the development of standardized data collection forms, 1173
 procedures, and training materials that are used uniformly on the universe of properties under 1174
 consideration. 1175

- (b) **employ recognized techniques for specifying property valuation models; and** 1176

Comment: The formal development of a model in a statement or equation is called model specification. Mass 1177
 appraisers must develop mathematical models that, with reasonable accuracy, represent the relationship 1178
 between property value and supply and demand factors, as represented by quantitative and qualitative 1179
 property characteristics. The models may be specified using the cost, sales comparison, or income 1180
 approaches to value. The specification format may be tabular, mathematical, linear, nonlinear, or any other 1181
 structure suitable for representing the observable property characteristics. Appropriate approaches must 1182
 be used in appraising a class of properties. The concept of recognized techniques applies to both real and 1183
 personal property valuation models. 1184

- (c) **employ recognized techniques for calibrating mass appraisal models.** 1185

Comment: Calibration refers to the process of analyzing sets of property and market data to determine the 1186
 specific parameters of a model. The table entries in a cost manual are examples of calibrated parameters, as 1187
 well as the coefficients in a linear or nonlinear model. Models must be calibrated using recognized techniques, 1188
 including, but not limited to, multiple linear regression, nonlinear regression, and adaptive estimation. 1189

1190 **STANDARDS RULE 5-5**1191 **In developing a mass appraisal, when necessary for credible assignment results, an appraiser must:**1192 **(a) collect, verify, and analyze such data as are necessary and appropriate to develop:**1193 **(i) the cost new of the improvements;**1194 **(ii) depreciation;**1195 **(iii) value of the land by sales of comparable properties;**1196 **(iv) value of the property by sales of comparable properties;**1197 **(v) value by capitalization of income or potential earnings (i.e., rentals, expenses, interest rates,**
1198 **capitalization rates, and vacancy data);**

1199 Comment: This Standards Rule requires appraisers engaged in mass appraisal to take reasonable
1200 steps to ensure that the quantity and quality of the factual data that are collected are sufficient to
1201 produce credible appraisals. For example, in real property, where applicable and feasible, systems
1202 for routinely collecting and maintaining ownership, geographic, sales, income and expense, cost,
1203 and property characteristics data must be established. Geographic data must be contained in as
1204 complete a set of cadastral maps as possible, compiled according to current standards of detail and
1205 accuracy. Sales data must be collected, confirmed, screened, adjusted, and filed according to current
1206 standards of practice. The sales file must contain, for each sale, property characteristics data that are
1207 contemporaneous with the date of sale. Property characteristics data must be appropriate and relevant
1208 to the mass appraisal models being used. The property characteristics data file must contain data
1209 contemporaneous with the date of appraisal including historical data on sales, where appropriate and
1210 available. The data collection program must incorporate a quality control program, including checks
1211 and audits of the data to ensure current and consistent records.

1212 **(b) base estimates of capitalization rates and projections of future rental rates and/or potential earnings**
1213 **capacity, expenses, interest rates, and vacancy rates on reasonable and appropriate evidence;⁶⁰**

1214 Comment: This requirement calls for an appraiser, in developing income and expense statements and cash
1215 flow projections, to weigh historical information and trends, current market factors affecting such trends, and
1216 reasonably anticipated events, such as competition from developments either planned or under construction.

1217 **(c) identify and, as applicable, analyze terms and conditions of any available leases; and**1218 **(d) identify the need for and extent of any physical inspection.⁶¹**1219 **STANDARDS RULE 5-6**1220 **When necessary for credible assignment results in applying a calibrated mass appraisal model an appraiser must:**1221 **(a) value improved parcels by recognized methods or techniques based on the cost approach, the sales**
1222 **comparison approach, and income approach;**1223 **(b) value sites by recognized methods or techniques; such techniques include but are not limited to the sales**
1224 **comparison approach, allocation method, abstraction method, capitalization of ground rent, and land**
1225 **residual technique;**1226 **(c) when developing the value of a leased fee estate or a leasehold estate, analyze the effect on value, if any,**
1227 **of the terms and conditions of the lease;**60 See Advisory Opinion 33, *Discounted Cash Flow Analysis*.61 See Advisory Opinion 2, *Inspection of Subject Property*.

<u>Comment:</u> In ad valorem taxation the appraiser may be required by rules or law to appraise the property as if in fee simple, as though unencumbered by existing leases. In such cases, market rent would be used in the appraisal, ignoring the effect of the individual, actual contract rents.	1228 1229 1230
(d) analyze the effect on value, if any, of the assemblage of the various parcels, divided interests, or component parts of a property; the value of the whole must not be developed by adding together the individual values of the various parcels, divided interests, or component parts; and	1231 1232 1233
<u>Comment:</u> When the value of the whole has been established and the appraiser seeks to value a part, the value of any such part must be tested by reference to appropriate market data and supported by an appropriate analysis of such data.	1234 1235 1236
(e) when analyzing anticipated public or private improvements, located on or off the site, analyze the effect on value, if any, of such anticipated improvements to the extent they are reflected in market actions.	1237 1238
STANDARDS RULE 5-7	1239
In reconciling a mass appraisal an appraiser must:	1240
(a) reconcile the quality and quantity of data available and analyzed within the approaches used and the applicability and relevance of the approaches, methods and techniques used; and	1241 1242
(b) employ recognized mass appraisal testing procedures and techniques to ensure that standards of accuracy are maintained.	1243 1244
<u>Comment:</u> It is implicit in mass appraisal that, even when properly specified and calibrated mass appraisal models are used, some individual value conclusions will not meet standards of reasonableness, consistency, and accuracy. However, appraisers engaged in mass appraisal have a professional responsibility to ensure that, on an overall basis, models produce value conclusions that meet attainable standards of accuracy. This responsibility requires appraisers to evaluate the performance of models, using techniques that may include but are not limited to, goodness-of-fit statistics, and model performance statistics such as appraisal-to-sale ratio studies, evaluation of hold-out samples, or analysis of residuals.	1245 1246 1247 1248 1249 1250 1251

STANDARD 6: MASS APPRAISAL, REPORTING

FAQ See also
FAQ 242-
304

1252 **In reporting the results of a mass appraisal, an appraiser must communicate each analysis,**
1253 **opinion, and conclusion in a manner that is not misleading.**

1254 Comment: STANDARD 6 addresses the content and level of information required in a report
1255 that communicates the results of a mass appraisal.

1256 STANDARD 6 does not dictate the form, format, or style of mass appraisal reports. The form, format, and style
1257 of a report are functions of the needs of intended users and appraisers. The substantive content of a report
1258 determines its compliance.

1259 **STANDARDS RULE 6-1**

1260 **Each written report of a mass appraisal must:**

1261 **(a) clearly and accurately set forth the appraisal in a manner that will not be misleading;**

1262 **(b) contain sufficient information to enable the intended users of the appraisal to understand the report properly;**
1263 **and**

1264 Comment: Documentation for a mass appraisal for ad valorem taxation may be in the form of (1) property
1265 records, (2) sales ratios and other statistical studies, (3) appraisal manuals and documentation, (4) market
1266 studies, (5) model building documentation, (6) regulations, (7) statutes, and (8) other acceptable forms.

1267 **(c) clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and**
1268 **limiting conditions used in the assignment.**

1269 Comment: The report must clearly and conspicuously:

- 1270 • state all extraordinary assumptions and hypothetical conditions; and
- 1271 • state that their use might have affected the assignment results.

1272 **STANDARDS RULE 6-2**

1273 **Each written report of a mass appraisal must:**

1274 **(a) state the identity of the client, unless the client has specifically requested otherwise; state the identity of**
1275 **any intended users by name or type;⁶²**

1276 Comment: An appraiser must use care when identifying the client to avoid violations of the Confidentiality section
1277 of the ETHICS RULE. If a client requests that the client's identity be withheld from the report, the appraiser may
1278 comply with this request. In these instances, the appraiser must document the identity of the client in the workfile
1279 and must state in the report that the identity of the client has been withheld at the client's request.

1280 **(b) state the intended use of the appraisal;⁶³**

1281 **(c) disclose any assumptions or limiting conditions that result in deviation from recognized methods and**
1282 **techniques or that affect analyses, opinions, and conclusions;**

1283 **(d) state the effective date of the appraisal and the date of the report;**

1284 Comment: In ad valorem taxation the effective date of the appraisal may be prescribed by law. If no
1285 effective date is prescribed by law, the effective date of the appraisal, if not stated, is presumed to be
1286 contemporaneous with the data and appraisal conclusions.

62 See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users*.

63 See Advisory Opinion 36, *Identification and Disclosure of Client, Intended Use, and Intended Users*.

The effective date of the appraisal establishes the context for the value opinion, while the date of the report indicates whether the perspective of the appraiser on the market and property as of the effective date of the appraisal was prospective, current, or retrospective. ⁶⁴	1287 1288 1289
(e) state the type and definition of value and cite the source of the definition;	1290
<u>Comment:</u> Stating the type and definition of value also requires any comments needed to clearly indicate to intended users how the definition is being applied. ⁶⁵	1291 1292
When reporting an opinion of market value, state whether the opinion of value is:	1293
• In terms of cash or of financing terms equivalent to cash; or	1294
• Based on non-market financing with unusual conditions or incentives.	1295
When an opinion of market value is not in terms of cash or based on financing terms equivalent to cash, summarize the terms of such financing and explain their contributions to or negative influence on value.	1296 1297
(f) state the properties appraised including the property rights;	1298
<u>Comment:</u> The report documents the sources for location, describing and listing the property. When applicable, include references to legal descriptions, addresses, parcel identifiers, photos, and building sketches. In mass appraisal this information is often included in property records. When the property rights to be appraised are specified in a statute or court ruling, the law must be referenced.	1299 1300 1301 1302
(g) summarize the scope of work used to develop the appraisal;⁶⁶ exclusion of the sales comparison approach, cost approach, or income approach must be explained;	1303 1304
<u>Comment:</u> Because intended users' reliance on an appraisal may be affected by the scope of work, the report must enable them to be properly informed and not misled. Sufficient information includes disclosure of research and analyses performed and might also include disclosure of research and analyses not performed.	1305 1306 1307
When any portion of the work involves significant mass appraisal assistance, the appraiser must describe the extent of that assistance. The signing appraiser must also state the name(s) of those providing the significant mass appraisal assistance in the certification, in accordance with Standards Rule 6-3. ⁶⁷	1308 1309 1310
(h) summarize and support the model specification(s) considered, data requirements, and the model(s) chosen;	1311
<u>Comment:</u> The appraiser must provide sufficient information to enable the client and intended users to have confidence that the process and procedures used conform to accepted methods and result in credible value conclusions. In the case of mass appraisal for ad valorem taxation, stability and accuracy are important to the credibility of value opinions. The report must include a summary of the rationale for each model, the calibration techniques to be used, and the performance measures to be used.	1312 1313 1314 1315 1316
(i) summarize the procedure for collecting, validating, and reporting data;	1317
<u>Comment:</u> The report must summarize the sources of data and the data collection and validation processes. Reference to detailed data collection manuals or electronic records must be made, as appropriate, including where they may be found for inspection.	1318 1319 1320
(j) summarize calibration methods considered and chosen, including the mathematical form of the final model(s); summarize how value conclusions were reviewed; and, if necessary, state the availability and location of individual value conclusions;	1321 1322 1323

64 See Advisory Opinion 34, *Retrospective and Prospective Value Opinions*.

65 See Advisory Opinion 34, *Retrospective and Prospective Value Opinions*.

66 See Advisory Opinion 28, *Scope of Work Decision, Performance, and Disclosure* and Advisory Opinion 29, *An Acceptable Scope of Work*.

67 See Advisory Opinion 31, *Assignments Involving More than One Appraiser*.

1324 **(k) when an opinion of highest and best use, or the appropriate market or market level was developed,**
 1325 **summarize how that opinion was determined;**

1326 Comment: The mass appraisal report must reference case law, statute, or public policy that describes highest
 1327 and best use requirements. When actual use is the requirement, the report must discuss how use-value
 1328 opinions were developed. The appraiser's reasoning in support of the highest and best use opinion must be
 1329 provided in the depth and detail required by its significance to the appraisal.

1330 **(l) identify the appraisal performance tests used and the performance measures attained;**

1331 **(m) summarize the reconciliation performed, in accordance with Standards Rule 5-7; and**

1332 **(n) include a signed certification in accordance with Standards Rule 6-3.**

1333 **STANDARDS RULE 6-3**

1334 **Each written mass appraisal report must contain a signed certification that is similar in content to the following form:**

1335 **I certify that, to the best of my knowledge and belief:**

- 1336 — **the statements of fact contained in this report are true and correct.**
- 1337 — **the reported analyses, opinions, and conclusions are limited only by the reported assumptions and**
 1338 **limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and**
 1339 **conclusions.**
- 1340 — **I have no (or the specified) present or prospective interest in the property that is the subject of this report,**
 1341 **and I have no (or the specified) personal interest with respect to the parties involved.**
- 1342 — **I have performed no (or the specified) services, as an appraiser or in any other capacity, regarding the**
 1343 **property that is the subject of this report within the three-year period immediately preceding acceptance**
 1344 **of this assignment.**
- 1345 — **I have no bias with respect to any property that is the subject of this report or to the parties involved with**
 1346 **this assignment.**
- 1347 — **my engagement in this assignment was not contingent upon developing or reporting predetermined results.**
- 1348 — **my compensation for completing this assignment is not contingent upon the reporting of a**
 1349 **predetermined value or direction in value that favors the cause of the client, the amount of the value**
 1350 **opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to**
 1351 **the intended use of this appraisal.**
- 1352 — **my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity**
 1353 **with the *Uniform Standards of Professional Appraisal Practice*.**
- 1354 — **I have (or have not) made a personal inspection of the properties that are the subject of this report. (If**
 1355 **more than one person signs the report, this certification must clearly specify which individuals did and**
 1356 **which individuals did not make a personal inspection of the appraised property.)⁶⁸**
- 1357 — **no one provided significant mass appraisal assistance to the person signing this certification. (If there are**
 1358 **exceptions, the name of each individual providing significant mass appraisal assistance must be stated.)**

1359 Comment: The above certification is not intended to disturb an elected or appointed assessor's work plans
 1360 or oaths of office. A signed certification is an integral part of the appraisal report. An appraiser, who signs
 1361 any part of the mass appraisal report, including a letter of transmittal, must also sign this certification.

1362 In an assignment that includes only assignment results developed by the real property appraiser(s), any appraiser(s)
 1363 who signs a certification accepts full responsibility for all elements of the certification, for the assignment results,
 1364 and for the contents of the appraisal report. In an assignment that includes personal property assignment results
 1365 not developed by the real property appraiser(s), any real property appraiser(s) who signs a certification accepts full
 1366 responsibility for the real property elements of the certification, for the real property assignment results, and for the
 1367 real property contents of the appraisal report.

68 See Advisory Opinion 2, *Inspection of Subject Property*.



In an assignment that includes only assignment results developed by the personal property appraiser(s), any appraiser(s) who signs a certification accepts full responsibility for all elements of the certification, for the assignment results, and for the contents of the appraisal report. In an assignment that includes real property assignment results not developed by the personal property appraiser(s), any personal property appraiser(s) who signs a certification accepts full responsibility for the personal property elements of the certification, for the personal property assignment results, and for the personal property contents of the appraisal report.	1368 1369 1370 1371 1372 1373
When a signing appraiser(s) has relied on work done by appraisers and others who do not sign the certification, the signing appraiser is responsible for the decision to rely on their work. The signing appraiser(s) is required to have a reasonable basis for believing that those individuals performing the work are competent. The signing appraiser(s) also must have no reason to doubt that the work of those individuals is credible.	1374 1375 1376 1377
The names of individuals providing significant mass appraisal assistance who do not sign a certification must be stated in the certification. It is not required that the description of their assistance be contained in the certification, but disclosure of their assistance is required in accordance with Standards Rule 6-2(g). ⁶⁹	1378 1379 1380

⁶⁹ See Advisory Opinion 31, *Assignments Involving More than One Appraiser*.

2019 USE-VALUE MANUAL
FOR AGRICULTURAL, HORTICULTURAL
AND
FOREST LAND



May 2018

North Carolina Use-Value Advisory Board
North Carolina Department of Revenue
Raleigh, North Carolina

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Foreword

When originally enacted in 1973, the objective of the present-use value program was to keep “the family farm in the hands of the farming family.” By the early 1970’s, North Carolina had become a prime site for industrial and commercial companies to relocate because of its plentiful and reliable work force. With this growth came other improvements to the State’s infrastructure to accommodate this growth, such as new and larger road systems, more residential subdivisions, and new industrial and commercial developments. The land on which to build these improvements came primarily from one source: farmland. As the demand for this land skyrocketed, so did its price as well as its assessed value, as counties changed from a fractional assessment to a market value system. Farmers who owned land near these sites soon could not afford the increase in property values and sought relief from the General Assembly.

In response, the General Assembly passed legislation known as the Present-Use Value program. As originally enacted, the basic tenets of this program were that only individuals who lived on the land for which they were applying could immediately qualify and that the land had to have a highest and best use as agriculture, horticulture or forest land. Land might also have qualified if the farmer owned it for seven years. Passage of this law eased the financial burden of most farmers and eliminated to some degree the “sticker shock” of the new property tax values. From that time until the mid-1980’s, the present-use value schedules were based on farmer-to-farmer sales, and quite often the market value schedules were very similar to the present use schedules, especially in the more rural areas.

Virtually every session of the General Assembly has seen new changes to the law, causing a constant rethinking as to how the law is to be administered. The mid-1980's saw several court cases that aided in this transformation. Among the legislative changes that resulted from these cases were the use of soil productivity to determine value, the use of a 9% capitalization rate, and the utilization of the "unit concept" to bring smaller tracts under the present use value guidelines.

Through the years the General Assembly has expanded the present-use value program to include new types of ownership such as business entities, tenants in common, trusts, and testamentary trusts. Legislation also expanded the definition of a relative. More recent legislation has established cash rents as the basis for determining present-use value for agricultural and horticultural land, while retaining the net income basis for determining present-use value for forestland.

This Use-Value Advisory Board Manual is published yearly to communicate the UVAB recommended present-use value rates and to explain the methodology used in establishing the recommended rates.

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USE-VALUE ADVISORY BOARD MANUAL

Following are explanations of the major components of this manual.

I. Cash Rents

Beginning in 1985, the basis for determining present-use value for agricultural land was based on the soil productivity for growing corn and soybeans. At that time, corn and soybeans were considered the predominant crops in the state. Over time, fewer and fewer acres went into the production of corn and soybeans and the land used for these crops tended to be lower quality. As a result, both the productivity and value of these crops plummeted, thus resulting in lower present-use values. A viable alternative was sought to replace corn and soybeans as the basis for present-use value. Following a 1998 study by North Carolina State University, cash rents for agricultural and horticultural land were determined to be the preferred alternative. Cash rents are a very good indicator of net income, which can be converted into a value using an appropriate capitalization rate.

The General Assembly passed legislation that established cash rents as the required method for determining the recommended present-use values for agricultural and horticultural land. The cash rents data from the NCSU study served as the basis for determining present-use value for the 2004-2007 UVAB manuals. However, starting in 2006, funding became available for the North Carolina Department of Agriculture to perform an extensive statewide cash rents survey on a yearly basis. The 2006 survey became the basis for the 2008 UVAB recommended values, and this process will

continue forward until changes dictate otherwise (i.e. the 2007 survey is used to establish the 2009 UVAB values, etc).

Forestland does not lend itself well to cash rents analysis and continues to be valued using the net income from actual production.

II. Soil Types and Soil Classification

The 1985 legislation divided the state using the six Major Land Resource Areas (MLRAs). Five different classes of productive soils and one non-productive soil class for each MLRA were determined. Each class was identified by its net income according to type: agriculture, horticulture and forestry. The net income was then divided by a 9% capitalization rate to determine the present-use value. For 2004 and forward, the following change has taken place. For agricultural and horticultural classifications, the five different soil classes have been reduced to three soil classes and one non-productive soil class. Forestland present-use value has kept the five soil classes and one non-productive soil class. The use of the six MLRAs has been retained.

The six MLRAs are as follows:

MLRA 130	Mountains
MLRA 133A	Upper Coastal Plain
MLRA 136	Piedmont
MLRA 137	Sandhills
MLRA 153A	Lower Coastal Plains
MLRA 153B	Tidewater

The soils are listed in this manual according to the MLRA in which they occur. They are then further broken down into their productivity for each of the three types of use: agriculture, horticulture and forestry. Every soil listed in each of the MLRAs is ranked by its productivity into four classes (with the exception of forestry which retained its previous six classes). The classes for agricultural and horticultural land are as follows:

CLASS I	Best Soils
CLASS II	Average Soils
CLASS III	Fair Soils
CLASS IV	Non-Productive Soils

It should be noted that, in some soil types, all the various slopes of that soil have the same productivity class for each of the usages, and therefore for the sake of brevity, the word “ALL” is listed to combine these soils. Each of the classes set up by the UVAB soils subcommittee corresponds to a cash rent income established by the most recent cash rents survey conducted by the North Carolina Department of Agriculture. This rent income is then capitalized by a rate established each year by the UVAB (see below). The criteria for establishing present-use value for forestry have remained basically unchanged from previous years due to the quantity and quality of information already available.

III. Capitalization Rate

The capitalization rate mandated by the 1985 legislation for all types of present-use value land was 9%. The 1998 study by NCSU strongly indicated that a lower capitalization rate for agricultural and horticultural land was more in line with current sales and rental information. The 2002 legislation mandated a rate between 6%-7% for agricultural and horticultural land.

For the year 2004 and the subsequent years, the UVAB has set the capitalization rate at 6.5% for agricultural and horticultural land.

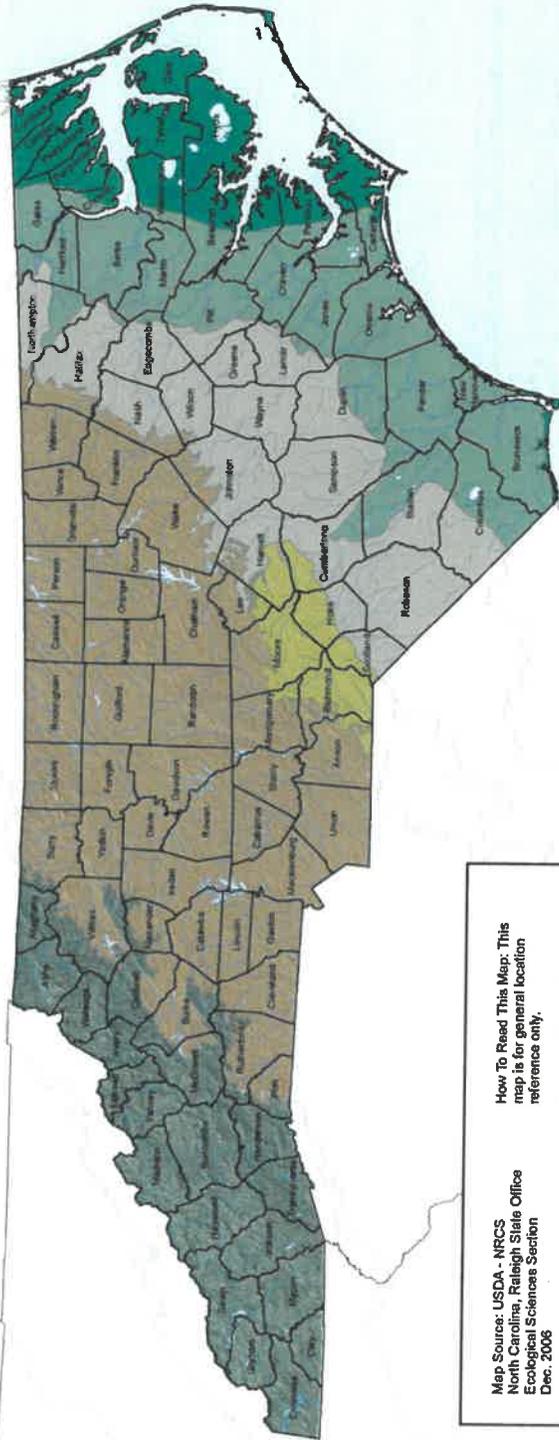
The capitalization rate for forestland continues to be fixed at 9% as mandated by the statutes.

IV. Other Issues

The value for the best agricultural land can be no higher than \$1,200 an acre for any MLRA.



Major Land Resource Areas North Carolina



130B - Mountains
136 - Piedmont
137 - Sandhills
133A - Upper Coastal Plain
153A - Lower Coastal Plain
153B - Tidewater

Map Sources: USDA - NRCS, North Carolina, Raleigh State Office Ecological Sciences Section Dec. 2006

Data Sources: USDA - NRCS, NCDOT, and USGS base map layers.

Map Location: <http://spdata1.wvnet.edu/maps>

How To Read This Map: This map is for general location reference only.

Purpose: This map displays the Major Land Resource Areas of the USDA - NRCS

0 25 50 100 Miles

1:3,200,000

Map Projection: Albers Equal Area
Datum: NAD27

PRESENT-USE VALUE SCHEDULES

AGRICULTURAL RENTS

MLRA	BEST	AVERAGE	FAIR
130	90.30	54.30	35.50
133A	82.15	58.30	43.65
136	61.80	42.10	27.35
137	67.50	47.30	32.20
153A	77.10	56.10	42.20
153B	103.95	70.70	53.00

AGRICULTURAL SCHEDULE

MLRA	CLASS I	CLASS II	CLASS III
130	\$1,200*	\$835	\$545
133A	\$1,200*	\$895	\$670
136	\$950	\$645	\$420
137	\$1,035	\$725	\$495
153A	\$1,185	\$860	\$645
153B	\$1,200*	\$1,085	\$815

--NOTE: All Class 4 or Non-Productive Land will be appraised at \$40.00 per acre.

--For 2019, rents were increased 10% to more accurately represent the current cash rents and then divided by a capitalization rate of 6.5% to produce the Agricultural Schedule.

* As required by statute, agricultural values cannot exceed \$1,200.

HORTICULTURAL SCHEDULE

All horticultural crops requiring more than one growing season between planting or setting out and harvest, such as Christmas trees, ornamental shrubs and nursery stock, apple and peach orchards, grapes, blueberries, strawberries, sod and other similar horticultural crops should be classified as horticulture regardless of location in the state.

HORTICULTURAL RENTS

MLRA	BEST	AVERAGE	FAIR
130	161.70	111.10	72.90
133A	99.10	68.40	52.25
136	89.20	58.05	40.15
137	84.35	56.85	37.70
153A	93.80	58.15	44.40
153B	122.40	92.80	84.35

HORTICULTURAL SCHEDULE

MLRA	CLASS I	CLASS II	CLASS III
130	\$2,485	\$1,705	\$1,120
133A	\$1,520	\$1,050	\$803
136	\$1,370	\$890	\$615
137	\$1,295	\$870	\$580
153A	\$1,440	\$890	\$680
153B	\$1,880	\$1,425	\$1,295

--NOTE: All Class 4 or Non-Productive Land will be appraised at \$40.00 per acre.

--For 2019 rents were increased 10% to more accurately represent the current cash rents and then divided by a capitalization rate of 6.5% to produce the Horticultural Schedule.

FORESTLAND NET PRESENT VALUES

MLRA	Class I	Class II	Class III	Class IV	Class V
130	\$29.99	\$18.86	\$6.91	\$4.74	\$3.26
133A	\$27.99	\$21.13	\$18.14	\$7.08	\$4.79
136	\$32.51	\$23.29	\$22.57	\$14.53	\$10.42
137	\$34.35	\$22.72	\$22.57	\$7.68	\$2.95
153A	\$27.99	\$21.13	\$18.14	\$7.08	\$4.79
153B	\$22.56	\$18.14	\$17.18	\$7.08	\$4.79

FORESTLAND SCHEDULE

MLRA	Class I	Class II	Class III	Class IV	Class V
130	\$330	\$205	\$75	\$50	\$40
133A	\$310	\$230	\$200	\$75	\$50
136	\$360	\$255	\$250	\$160	\$115
137	\$380	\$250	\$250	\$85	\$40
153A	\$310	\$230	\$200	\$75	\$50
153B	\$250	\$200	\$190	\$75	\$50

--NOTE: All Class VI or Non-Productive Land will be appraised at \$40.00/Acre. Exception: For MLRA 130 use 80 % of the lowest valued productive land.

--Net Present Values were divided by a capitalization rate of 9.00% to produce the Forestland Schedule.

2009 Cash Rent Study

INTRODUCTION

The National Agricultural Statistics Service in cooperation with the North Carolina Department of Agricultural and Consumer Services collected cash rents data on the 2009 County Estimates Survey. North Carolina farmers were surveyed to obtain cash rent values per acre for three land types: Agricultural, horticultural, and Christmas tree land. Supporting funds for this project were provided by the North Carolina Legislature. Appreciation is expressed to all survey participants who provided the data on which this report is based.

THE SURVEY

The survey was conducted by mail with telephone follow-up during September through February. Values relate to the data collection time period when the respondent completed the survey.

THE DATA

This report includes the most current number of responses and average rental rate per acre. Producers were asked to provide their best estimate of cash rent values in their county by land quality. The data published here are simple averages of the best estimate of the cash rent value per acre. These averages are not official estimates of actual sales.

Reported data that did not represent agricultural usage were removed in order to give a more accurate reflection of agricultural rents and values. To ensure respondent confidentiality and provide more statistical reliability, counties and districts with fewer than 10 reports are not published individually, but are included in aggregate totals. Published values in this report should never be used as the only factor to establish rental arrangements.

Data were collected for three land types: Agricultural, horticultural, and Christmas tree land. Agricultural land includes land used to produce row crops such as soybeans, corn, peanuts, and small grains, pasture land, and hay. Agricultural land also includes any land on which livestock are grown. Horticultural land includes commercial production or growing of fruits or vegetables or nursery or floral products such as apple orchards, blueberries, cucumbers, tomatoes, potted plants, flowers, shrubs, sod, and turfgrass. Christmas tree land includes any land to produce Christmas trees, including cut and balled Christmas trees.

2009 Average Cash Rents for Resource Area = 130 Mountains

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
ALLEGHANY	22	89.80	21	55.50	21	33.30												
ASHE	7	76.50	5	43.50	5	28.30							12	182.50				
AVERY																		
BUNCOMBE	37	100.70	31	53.90	27	33.80												
BURKE	25	55.20	22	33.20	19	26.60												
CALDWELL	13	35.40	11	23.20	10	16.70												
CHEROKEE	16	88.10	11	48.60	10	29.50												
CLAY	15	68.70	14	39.10	13	25.20												
GRAHAM																		
HAYWOOD	41	117.90	28	73.80	29	43.50												
HENDERSON	24	83.50	18	57.60	18	36.90												
JACKSON																		
MACDOWELL																		
MADISON	11	73.20	10	43.30														
MADISON	26	115.50	22	63.20	23	40.50												
MITCHELL																		
POLK																		
SWAIN																		
TRANSYLVANIA	14	93.60																
WATAUGA	27	79.10	18	49.70	14	32.50								11	181.85			
WILKES	79	57.30	71	39.30	69	27.00												
YANCEY	7	117.90	13	72.30	13	48.85												
AREA TOTAL	422	82.10	349	49.40	317	32.30	78	147.00	47	101.10	41	66.30	69	153.50	47	93.60	38	61.30

2009 Average Cash Rents for Resource Area = 133A Upper Coastal Plain

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
BLADEN	36	63.10	32	49.20	25	33.80												
COLUMBUS	77	60.80	58	45.80	51	34.60												
CUMBERLAND	36	66.40	29	44.70	25	30.40												
DUPLIN	142	69.30	113	50.80	90	39.70												
EDGEcombe	36	77.10	29	57.20	22	43.60												
GREENE	61	79.70	40	55.00	36	41.30												
HALIFAX	28	83.30	18	64.20	14	42.10												
HARNETT	58	74.50	52	51.70	39	36.40												
JOHNSTON	103	71.90	84	49.90	63	33.40	13	93.90	10	53.00								
LENOIR	60	81.60	45	58.70	33	42.10												
NASH	51	77.80	39	52.70	31	43.10												
NORTHAMPTON	23	102.60	17	73.80	13	57.30												
ROBESON	53	49.60	52	38.90	28	32.40												
SAMPSON	128	81.60	109	56.40	87	41.80	10	95.00										
SCOTLAND	10	44.50																
WAYNE	96	89.70	64	62.30	65	47.00												
WILSON	40	82.80	30	61.50	27	48.20												
AREA TOTAL	1038	74.70	819	53.00	655	39.70	61	90.10	46	62.20	35	47.50						

2009 Average Cash Rents for Resource Area = 136 Piedmont

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
ALAMANCE	63	52.30	51	32.90	50	20.70												
ALEXANDER	35	49.10	28	33.40	29	20.00												
ANSON	35	50.10	31	41.30	25	28.40												
BURKE	25	55.20	22	33.20	18	26.60												
CABARRUS	20	42.20	16	37.80	13	23.90												
CALDWELL	13	35.40	11	23.50	10	16.70												
CASWELL	54	49.90	41	30.90	44	19.20												
CATAWBA	32	39.20	29	28.60	31	19.20												
CHATHAM	47	48.80	48	34.70	37	23.10												
CLEVELAND	44	46.50	39	29.20	34	21.20												
DAVIDSON	50	45.60	43	32.90	40	21.40												
DAVIE	38	60.70	27	39.30	24	21.30												
DURHAM	26	63.60	16	48.80	18	23.30												
FORSYTH	41	59.20	38	37.10	35	21.90												
FRANKLIN	17	33.50	15	27.30	15	18.80												
GASTON	58	53.00	45	31.60	43	17.80												
GRANVILLE	46	41.20	39	27.00	34	17.60												
HALIFAX	28	83.30	18	64.20	14	42.10												
IREDELL	52	53.90	49	43.40	43	27.90												
JOHNSTON	103	71.90	84	49.90	63	33.40	13	93.90	10	53.00								
LEE	25	72.40	20	45.40	16	33.10												
LINCOLN	16	35.60	14	21.80	12	15.60												
MECKLENBURG	11	61.40																
MONTGOMERY	16	41.60	16	39.10	14	20.00												
MOORE	37	56.50	33	37.30	25	23.90												
NASH	51	77.80	39	52.70	31	43.10												
ORANGE	31	37.60	26	31.80	25	19.40												
PERSON	38	60.70	26	40.60	22	23.30												
POLK																		
RANDOLPH	96	48.20	81	33.80	73	21.90												
RICHMOND	21	32.60	15	23.30	18	19.30												
ROCKINGHAM	55	55.10	41	30.30	40	16.60												
ROWAN	47	48.80	36	34.70	33	23.50												
RUTHERFORD	21	37.40	16	27.60	14	19.30												
STANLY	34	52.50	30	40.30	29	27.90												
STOKES	54	74.20	39	47.10	34	28.10												
SURRY	73	83.00	57	53.90	53	35.30												
UNION	55	66.30	50	47.80	40	40.30												
VANCE	32	55.00	22	29.30	23	17.20												
WAKE	55	61.20	46	36.20	39	26.20												
WARREN	24	40.90	15	25.30	20	17.80												
WILKES	79	57.30	71	39.30	59	27.00												
YADKIN	79	67.00	60	47.80	58	31.50												
AREA TOTAL	1798	56.20	1468	38.30	1324	24.90	125	81.10	101	52.80	89	36.50	46	77.90	43	52.90	41	35.00

2009 Average Cash Rents for Resource Area = 137 Sandhills

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
HARNETT	58	74.50	52	51.70	39	36.40												
HOKE	7	56.50	11	45.00	11	29.10												
LEE	25	72.40	20	46.40	16	33.10												
MOORE	37	56.50	33	37.30	25	23.90												
RICHMOND	21	32.60	15	23.30	18	19.30												
SCOTLAND	10	44.50																
AREA TOTAL	168	61.40	139	43.00	115	29.30	*	76.70	*	51.70	*	34.30						

An * indicates the data is published even though there are less than 10 reports.

2009 Average Cash Rents for Resource Area = 153A Lower Coastal Plain

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
BEAUFORT	30	83.70	23	52.00	21	37.10												
BERTIE	41	75.00	23	60.10	21	44.50												
BLADEN	38	63.10	32	49.20	25	33.80												
BRUNSWICK	23	44.40	15	38.00	13	30.00												
CARTERET																		
CHOWAN	20	87.00	13	58.90	12	51.70												
COLUMBUS	77	60.80	58	45.80	51	34.60												
GRAVEN	32	60.60	29	47.80	21	35.20												
DUPLIN	142	69.30	113	50.80	90	39.70												
EDGECOMBE	36	77.10	29	57.20	22	43.60												
GATES	13	81.20	11	62.30														
HERTFORD	15	73.00	11	49.60														
JONES	25	64.40	22	49.80	20	41.30												
MARTIN	46	80.70	33	53.20	29	40.50												
NEW HANOVER																		
ON SLOW	34	55.40	24	42.80	23	34.80												
PAMLICO	13	70.40	13	51.20	13	36.50												
PENDER	24	67.10	21	45.50	19	33.70												
PITT	45	73.70	39	56.20	33	40.50												
WASHINGTON	12	28.80	10	61.00														
AREA TOTAL	672	70.10	525	51.00	442	38.40	30	85.30	19	52.90	13	40.40						

2009 Average Cash Rents for Resource Area = 153B Tidewater

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
BEAUFORT	30	83.70	23	52.00	21	37.70												
CAMDEN																		
CARTERET																		
CHOWAN	20	87.00	13	58.40	12	51.70												
CURRITUCK	10	88.00																
DARE																		
HYDE																		
PAMLICO	13	70.40	10	51.20	13	36.50												
PASQUOTANK	19	105.30	11	73.20	10	60.00												
PERQUIMANS	24	101.90	21	78.70	18	58.90												
TYRRELL	10	119.50																
WASHINGTON	12	128.80	10	61.00														
AREA TOTAL	163	94.50	117	64.30	111	48.20	12	111.30	*	84.40	*	76.70						

An * indicates the data is published even though there are less than 10 reports.

2009 Average Cash Rents - State Total

County	Agricultural High Productivity		Agricultural Medium Productivity		Agricultural Low Productivity		Horticultural High Productivity		Horticultural Medium Productivity		Horticultural Low Productivity		Christmas Trees High Productivity		Christmas Trees Medium Productivity		Christmas Trees Low Productivity	
	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average	No. of reports	Average
STATE TOTAL	3431	66.90	2743	45.60	2414	31.50	254	103.20	184	67.70	155	46.90	114	121.50	93	75.30	80	49.40

Christmas Tree Guidelines

This information replaces a previous memorandum issued by our office dated December 12, 1989. The 1989 General Assembly enacted an “in-lieu of income” provision allowing land previously qualified as horticulture to continue to receive benefits of the present-use value program when the crop being produced changed from any horticultural product to Christmas trees. It also directed the Department of Revenue to establish a separate gross income requirement different from the \$1,000 gross income requirement for horticultural land, when the crop being grown was evergreens intended for use as Christmas trees. N.C.G.S. 105-289(a)(6) directs the Department of Revenue:

“To establish requirements for horticultural land, used to produce evergreens intended for use as Christmas trees, in lieu of a gross income requirement until evergreens are harvested from the land, and to establish a gross income requirement for this type of horticultural land, that differs from the income requirement for other horticultural land, when evergreens are harvested from the land.”

It should be noted that horticultural land used to produce evergreens intended for use as Christmas trees is the only use allowed benefit of the present-use value program without first having met a gross income requirement. The trade-off for this exception is a different gross income requirement in recognition of the potential for greater income than would normally be associated with other horticultural or agricultural commodities.

While the majority of Christmas tree production occurs in the western mountain counties (MLRA 130), surveys as far back as 1996 indicate that there are approximately 135 Christmas tree operations in non-mountain counties (MLRAs 136, 137, 133A, 153A & 153B). They include such counties in the piedmont and coastal plain as Craven, Halifax, Robeson, Wake, and Warren. For this reason we have prepared separate in-lieu of income requirements and gross income requirements for these two areas of the State. The different requirements recognize the difference in species, growing practices, markets, and resulting gross income potential.

After consulting with cooperative extension agents, the regional Christmas tree/horticultural specialist at the Western North Carolina Experimental Research Station, and various landowners/growers, we have determined the standards in the following attachments to be reasonable guidelines for compliance with G.S. 105-289(a)(6). Please note these requirements are subject to the whims of weather and other conditions that can have a significant impact. The combined effect of recent hurricanes, spring freezes, and ice storms across some parts of the State should be taken into consideration when appropriate within each county. As with other aspects of the present-use value program, owners of Christmas tree land should not be held accountable for conditions such as adverse weather or disease outbreak beyond their control.

We encourage every county to contact their local Cooperative Extension Service Office to obtain the appropriate local data and expertise to support particular situations in each county.

I. Gross Income Requirement for Christmas Trees

For MLRA 130, the gross income requirement for horticultural land used to grow evergreens intended for use as Christmas trees is \$2,000 per acre.

For all other MLRAs, the gross income requirement for horticultural land used to grow evergreens intended for use as Christmas trees is \$1,500 per acre.

II. In-Lieu of Income Requirement

MLRA 130 – Mountains

The in-lieu of income requirement is for acreage in production but not yet undergoing harvest, and will be determined by sound management practices, best evidenced by the following:

1. Sites prepared by controlling problem weeds and saplings, taking soil samples, and applying fertilizer and/or lime as appropriate.
2. Generally, a 5' x 5' spacing producing approximately 1,750 potential trees per acre. Spacing must allow for adequate air movement around the trees. (There is very little 4' x 4' or 4.5' x 4.5' spacing. Some experimentation has occurred with 5' x 6' spacing, primarily aimed at producing a 6' tree in 5 years. All of the preceding examples should be acceptable.)
3. A program for insect and weed control.
4. Generally, an eight-to-ten year setting to harvest cycle. (Most leases are for 10 years, which allows for a replanting of non-established or dying seedlings up through the second year.)

The gross income requirement for acres undergoing Christmas tree harvest in the mountain region of North Carolina (MLRA 130) is \$2,000 per acre. Once Christmas trees are harvested from specific acreage, the requirement for those harvested acres will revert to the in-lieu of income requirement.

As an example, if the total amount of acres devoted to Christmas tree production is six acres, three of which are undergoing harvest and three of which have yet to reach maturity, the gross income requirement would be \$6,000.

**MLRA 136 – Piedmont, MLRA 137 – Sandhills, MLRA 133A – Upper Coastal Plain,
MLRA 153A – Lower Coastal Plain, and MLRA 153B – Tidewater.**

The in-lieu of income requirement is for acreage in production but not yet undergoing harvest, and will be determined by sound management practices, best evidenced by the following:

1. Sites prepared by controlling problem weeds and saplings, taking soil samples, and applying fertilizer and/or lime as appropriate.
2. Generally, a 7' x 7' spacing producing approximately 900 potential trees per acre. Spacing must allow for adequate air movement around the trees. (There may be variations in the spacing dependent on the species being grown, most likely Virginia Pine, White Pine, Eastern Red Cedar, and Leyland Cypress. All reasonable spacing practices should be acceptable.)
3. A program for insect and weed control.
4. Generally a five-to-six year setting to harvest cycle. (Due to the species being grown, soil conditions and growing practices, most operations are capable of producing trees for market in the five-to-six year range. However, the combined effect of adverse weather and disease outbreak may force greater replanting of damaged trees thereby lengthening the current cycle beyond that considered typical.)

The gross income requirement for acres undergoing Christmas tree harvest in the non-mountain regions of North Carolina (MLRAs 136, 137, 133A, 153A, and 153B) is \$1,500 per acre. Once Christmas trees are harvested from specific acreage, the requirement for those harvested acres will revert to the in-lieu of income requirement.

As an example, if the total amount of acres devoted to Christmas tree production is six acres, three of which are undergoing harvest and three of which have yet to reach maturity, the gross income requirement would be \$4,500.

Procedure for Forestry Schedules

The charge to the Forestry Group is to develop five net income per-acre ranges for each MLRA based on the ability of the soils to produce timber income. The task is confounded by variable species and stand type; management level, costs and opportunities; markets and stumpage prices; topographies; and landowner objectives across North Carolina.

In an attempt to develop realistic net income per acre in each MLRA, the Forestry Group considered the following items by area:

1. soil productivity and indicator tree species (or stand type);
2. average stand establishment and annual management costs;
3. average rotation length and timber yield; and
4. average timber stumpage prices.

Having selected the appropriate combinations above, the harvest value (gross income) from a managed rotation on a given soil productivity level can be calculated, netted of costs and amortized to arrive at the net income per acre per year soil expectation value. The ensuing discussion introduces users of this manual to the procedure, literature and software citations and decisions leading to the five forest land classes for each MLRA. Column numbers beside sub-headings refer to columns in the Forestry Net Present Values Table.

Soil Productivity/Indicator Species Selection (Col. 1). Soil productivity in forestry is measured by site index (SI). Site index is the height to which trees of a given species will grow on a given soil/site over a designed period of time (usually 50 or 25 years, depending on species, site or age

of site table). The Forestry Group identified key indicator species (or stand types) for each MLRA and then assigned site index ranges for the indicator species that captured the management opportunities for that region. The site index ranges became the productivity class basis for further calculations of timber yield and generally can be correlated to Natural Resource Conservation Service (NRCS) cubic foot per acre productivity classes for most stand types. By MLRA, the following site index ranges and species/stand types cover the overwhelming majority of soils/sites and management opportunities.

MLRA 153A, 153B, 137, 136, 133A:

<u>Species/Stand Type</u>	<u>SI Range (50 yr. basis)</u>
Loblolly pine	86-104
Loblolly pine	66-85
Loblolly pine	60-65
Mixed hardwoods	Mixed species and site indices on coves, river bottoms, bottomlands
Pond and/or longleaf pine	50-55
Upland hardwoods (MLRA 136)	40-68 (Upland oak)

MLRA 130:

<u>Species/Stand Type</u>	<u>SI Range (50 yr. basis)</u>
White pine	70-89
White pine	55-69
Shortleaf/mixed hardwoods	Mixed species/sites (SI 42-58 shortleaf)
Bottomland/cove hardwoods	Mixed species/site indices on coves and bottoms
Upland oak ridges	40-68

The site index ranges above, in most cases, can be correlated to individual soil series (and series' phases) according to NRCS cubic foot per acre productivity classes. An exception will be the cove, bottomland, riverbottom, and other hardwood sites where topographic position must also be

considered. The Soils Group is responsible for assigning soil series to the appropriate class for agriculture, horticulture and forestry.

Stand Establishment and Annual Management Costs (Columns 2 and 3). Stand establishment costs include site preparation and tree planting costs. Costs vary from \$0 to over \$200 per acre depending on soils, species, and management objectives. No cost would be incurred for natural regeneration (as practiced for hardwoods) with costs increasing as pine plantations are intensively managed on highly productive sites. The second column in the Forestry Net Present Values Table contains average establishment costs for the past ten years as reported by the N.C. Forest Service for site classes in each MLRA.

Annual management may include costs of pine release, timber stand improvement activities, prescribed burning, boundary line maintenance, consultant fees and other contractual services. Cost may vary from \$0 on typical floodplain or bottomland stands to as high as \$6 per acre per year on intensively managed pine plantations. Annual management costs in Forestry Net Present Values Table are the best estimates under average stand management regimes by site class.

Rotation Length and Timber Yields (Columns 4, 5, 6). Sawtimber rotations are recommended on all sites in North Carolina. This decision is based on the market situation throughout the state, particularly the scarce markets for low quality and small-diameter pine and hardwood, which normally would be used for pulpwood. Timber thinnings are not available to most woodlot managers and, therefore, rotations are assumed to proceed unthinned until the optimum economic product mix is achieved.

Timber yields are based on the most current yield models developed at the N.C. State University School of Forest Resources for loblolly pine. (Hafley, Smith, and Buford, 1982) and natural hardwood stands (Gardner et al. 1982). White pine yields, mountain mixed stand yields, and upland oak yields are derived from U.S. Forest Service yield models developed by Vimmerstedt (1962) and McClure and Knight. Longleaf and pond pine yields are from Schumacher and Coile (1960).

Timber Stumpage Prices (Columns 7 and 8). Cost of forestry operations are derived from the past five year regional data (provided by the NC DFR). For timber, stumpage prices (prices paid for standing timber to landowners) are derived over the same 5-year period from regional Forest2Market reports, a timber price reporting system.

Harvest Values (Column 9). Multiplication of timber yields (columns 5 and 6) times the respective timber stumpage prices (columns 7 and 8) gives the gross harvest value of one rotation.

Annualized Net Present Value (NPV) (Column 10). Harvest values (column 9) are discounted to present value at a 4 percent discount rate, which is consistent with rates used and documented by the U.S. Forest Service, forestry industry and forestry economists. This rate approximates the long-term measures of the opportunity cost of capital in the private sector of the U. S. economy (Row et al. 1981; Gunter and Haney, 1984). The respective establishment costs and the present value of annual management costs are subtracted from the present value of the income to obtain the net

present value of the timber stand. This is then amortized over the life of the rotation to arrive at the annualized net present value (or annual net income) figure.

Forestry Net Present Values

Indicator Species or Stand Types, Lengths of Rotation, Costs, Yields, Price and Annualized Net Present Value per Acre of Land by Site Index Ranges in Each Major Land Resource Are, North Carolina

(1) Species/Stand Type	(2) Est. Cost	(3) Mgmt. Cost	(4) Rot. Lgth.	(5) Yield (MBF)	(6) Yield (cda)	(7) Price /mbf	(8) Price /cda	(9) Harvest Value	(10) Annualized NPV
UP LCP									
MLRAs 153A and 133A									
LOWER & UPPER CP									
Mixed hardwoods	\$0.00		50	11.5		\$225.00	\$14.52	\$3,226.38	\$21.13
Loblolly pine (86-104)	\$364.00	\$3.00	30	12	14.4	\$207.00	\$30.20	\$2,918.88	\$27.99
Loblolly pine (66-85)	\$255.00	\$2.00	30	7	16.8	\$207.00	\$30.20	\$1,956.36	\$18.14
Loblolly pine (60-65)	\$127.00	\$1.00	40	4.8	12.7	\$207.00	\$30.20	\$1,377.14	\$7.08
Pond pine (50-55)	\$50.00	\$0.50	50	2.7	20	\$207.00	\$30.20	\$1,162.90	\$4.79
Longleaf pine	\$50.00	\$0.50	50	3.2	8	\$207.00	\$30.20	\$904.00	\$3.94
MLRA 153B									
TIDEWATER									
Mixed hardwoods	\$0.00		50	8.43		\$235.39	\$14.52	\$2,623.24	\$17.18
Loblolly pine (86-104)	\$458.00	\$3.00	30	12	14.4	\$207.00	\$30.20	\$2,918.88	\$22.56
Loblolly pine (66-85)	\$255.00	\$2.00	30	7	16.8	\$207.00	\$30.20	\$1,956.36	\$18.14
Loblolly pine (60-65)	\$127.00	\$1.00	40	4.8	12.7	\$207.00	\$30.20	\$1,377.14	\$7.08
Pond pine	\$50.00	\$0.50	50	2.7	20	\$207.00	\$30.20	\$1,162.90	\$4.79
MLRA 137									
SANDHILLS									
Mixed hardwoods	\$0.00		50	11.9		\$235.39	\$14.50	\$3,468.14	\$22.72
Loblolly pine (86-104)	\$265.20	\$3.00	30	12	15.6	\$207.00	\$30.20	\$2,955.12	\$34.35
Loblolly pine (66-85)	\$141.00	\$2.00	30	6.4	16.9	\$207.00	\$30.20	\$1,835.18	\$22.57
Loblolly pine (60-65)	\$53.00	\$1.00	50	7.2	7	\$207.00	\$30.20	\$1,701.80	\$7.68
Longleaf pine (50-55)	\$53.00	\$0.50	50	3.2	8	\$207.00	\$30.20	\$904.00	\$2.95

Forestry Net Present Values

Indicator Species or Stand Types, Lengths of Rotation, Costs, Yields, Price and Annualized Net Present Value per Acre of Land by Site Index Ranges in Each Major Land Resource Are, North Carolina

(1) Species/Stand Type	(2) Est. Cost	(3) Mgmt. Cost	(4) Rot. Lgth.	(5) Yield (MBF)	(6) Yield (cads)	(7) Price /mbf	(8) Price /cad	(9) Harvest Value	(10) Annualized NPV
UP LCP	(\$)	(\$)	(yrs)	(MBF)	(cads)	(\$)	(\$)	(\$)	(\$)
MLRA 136									
PIEDMONT									
Mixed hardwoods	\$0.00	\$0.00	50	11.9	46	\$235.39	\$16.40	\$3,555.54	\$23.29
Loblolly pine (86-104)	\$265.20	\$3.00	30	11.5	15.6	\$207.00	\$30.20	\$2,851.62	\$32.51
Loblolly pine (66-85)	\$141.00	\$2.00	30	6.4	16.9	\$207.00	\$30.20	\$1,835.18	\$22.57
Loblolly pine (60-65)	\$55.00	\$0.50	40	4.1	15	\$207.00	\$30.20	\$1,301.70	\$10.42
Upland hardwoods	\$0.00	\$0.00	50	6.05	32	\$207.00	\$30.20	\$2,218.75	\$14.53
MLRA 130									
WESTERN									
Mixed hardwoods	\$0.00	\$0.00	50	10.95	0	\$263.00	\$18.50	\$2,879.85	\$18.86
White pine (70-89)	\$270.00	\$2.00	30	17.8	0	\$150.00	\$18.50	\$2,670.00	\$29.99
White pine (55-69)	\$175.40	\$1.00	35	8.5	0	\$150.00	\$18.50	\$1,275.00	\$6.91
Shortleaf/mixed hwd.	\$0.00	\$0.00	60	6	0	\$188.00	\$18.50	\$1,128.00	\$4.74
Upland oak ridge (40-68)	\$0.00	\$0.00	70	5.32	0	\$223.00	\$18.50	\$1,186.36	\$3.26

MLRA 130 – Mountains

Map Unit Name	Agri	For	Hort
Alluvial land, wet	IV	II	IV
Arents, loamy	IV	II	IV
Arkaqua loam, 0 to 2 percent slopes, frequently flooded	IV	II	IV
Arkaqua loam, 0 to 2 percent slopes, occasionally flooded	II	III	II
Arkaqua loam, 0 to 2 percent slopes, rarely flooded	II	III	II
Ashe and Edneyville soils, 6 to 15 percent slopes	IV	I	III
Ashe and Edneyville soils, 15 to 25 percent slopes	IV	I	III
Ashe and Edneyville soils, 25 to 45 percent slopes	IV	I	IV
Ashe fine sandy loam, 6 to 15 percent slopes	IV	III	III
Ashe fine sandy loam, 10 to 25 percent slopes	IV	III	III
Ashe fine sandy loam, 15 to 25 percent slopes	IV	III	III
Ashe fine sandy loam, 25 to 45 percent slopes	IV	III	IV
Ashe gravelly fine sandy loam, 25 to 65 percent slopes	IV	III	IV
Ashe stony fine sandy loam, ALL	IV	III	IV
Ashe stony sandy loam, ALL	IV	III	IV
Ashe-Chestnut-Buladean complex, very stony, ALL	IV	III	IV
Ashe-Cleveland complex, stony, ALL	IV	IV	IV
Ashe-Cleveland-Rock outcrop complex, ALL	IV	IV	IV
Ashe-Rock outcrop complex, 15 to 70 percent slopes	IV	VI	IV
Augusta fine sandy loam, cool variant, 1 to 4 percent slopes (Delanco)	II	I	II
Balsam, ALL	IV	VI	IV
Balsam-Rubble land complex, windswept, ALL	IV	VI	IV
Balsam-Tanasee complex, extremely bouldery, ALL	IV	VI	IV
Bandana sandy loam, 0 to 3 percent slopes, occasionally flooded	II	II	II
Bandana-Ostin complex, 0 to 3 percent slopes, occasionally flooded	III	II	III
Biltmore, ALL	IV	II	IV
Braddock and Hayesville clay loams, eroded, ALL	III	I	III
Braddock clay loam, 2 to 6 percent slopes, eroded	II	I	III
Braddock clay loam, 2 to 8 percent slopes, eroded	II	I	III
Braddock clay loam, 6 to 15 percent slopes, eroded	II	I	III
Braddock clay loam, 8 to 15 percent slopes, eroded	II	I	III
Braddock clay loam, eroded, ALL OTHER	IV	I	III
Braddock clay loam, 15 to 30 percent slopes, eroded, stony	IV	I	IV
Braddock fine sandy loam, 15 to 30 percent slopes	III	I	III
Braddock gravelly loam, 2 to 8 percent slopes	I	I	I
Braddock gravelly loam, 8 to 15 percent slopes	II	I	I
Braddock loam, 2 to 8 percent slopes	I	I	I
Braddock loam, 8 to 15 percent slopes	II	I	I
Braddock-Urban land complex, ALL	IV	I	IV
Bradson gravelly loam, ALL	II	I	I
Brandywine stony soils, ALL	IV	IV	IV
Brasstown-Junaluska complex, 8 to 15 percent slopes	III	IV	III
Brasstown-Junaluska complex, 15 to 30 percent slopes	IV	IV	III
Brasstown-Junaluska complex, ALL OTHER	IV	IV	IV
Brevard fine sandy loam, 1 to 6 percent slopes, rarely flooded	I	I	I
Brevard loam, 2 to 6 percent slopes	I	I	I
Brevard loam, 6 to 10 percent slopes	II	I	I
Brevard loam, 7 to 15 percent slopes	II	I	I
Brevard loam, 10 to 25 percent slopes	IV	I	I
Brevard loam, 15 to 25 percent slopes	IV	I	I
Brevard loam, 25 to 45 percent slopes	IV	I	II
Brevard sandy loam, 8 to 15 percent slopes	II	I	I

MLRA 130 – Mountains

Map Unit Name	Agri	For	Hort
Brevard-Greenlee complex, extremely bouldery, ALL	IV	I	IV
Buladean-Chestnut complex, 15 to 30 percent slopes, stony	IV	I	III
Buladean-Chestnut complex, stony, ALL OTHER	IV	I	IV
Burton stony loam, ALL	IV	V	IV
Burton-Craggey complex, windswept, ALL	IV	VI	IV
Burton-Craggey-Rock outcrop complex, windswept, ALL	IV	VI	IV
Burton-Wayah complex, windswept, ALL	IV	VI	IV
Cashiers fine sandy loam, 2 to 8 percent slopes	II	I	I
Cashiers fine sandy loam, 8 to 15 percent slopes	II	I	II
Cashiers fine sandy loam, 15 to 30 percent slopes, stony	IV	I	II
Cashiers fine sandy loam, 30 to 50 percent slopes, stony	IV	I	III
Cashiers fine sandy loam, 50 to 95 percent slopes, stony	IV	I	IV
Cashiers gravelly fine sandy loam, 8 to 15 percent slopes	II	I	II
Cashiers gravelly fine sandy loam, 15 to 30 percent slopes	IV	I	II
Cashiers gravelly fine sandy loam, 30 to 50 percent slopes	IV	I	III
Cashiers gravelly fine sandy loam, 50 to 95 percent slopes	IV	I	IV
Cashiers sandy loam, 8 to 15 percent slopes, stony	II	I	II
Cashiers sandy loam, 15 to 30 percent slopes, stony	IV	I	II
Cashiers sandy loam, 30 to 50 percent slopes, stony	IV	I	III
Cashiers sandy loam, 50 to 95 percent slopes, stony	IV	I	IV
Cataska-Rock outcrop complex, 30 to 95 percent slopes	IV	VI	IV
Cataska-Sylco complex, 50 to 95 percent slopes	IV	VI	IV
Chandler and Fannin soils, 25 to 45 percent slopes	IV	I	IV
Chandler gravelly fine sandy loam, 8 to 15 percent slopes	IV	III	II
Chandler gravelly fine sandy loam, 15 to 30 percent slopes	IV	III	II
Chandler gravelly fine sandy loam, 30 to 50 percent slopes	IV	III	III
Chandler gravelly fine sandy loam, ALL OTHER	IV	III	IV
Chandler gravelly fine sandy loam, windswept, ALL	IV	VI	IV
Chandler loam, 2 to 8 percent slopes	III	III	II
Chandler loam, 8 to 15 percent slopes	IV	III	II
Chandler loam, 15 to 25 percent slopes	IV	III	III
Chandler loam, 25 to 65 percent slopes	IV	III	IV
Chandler silt loam, 10 to 25 percent slopes	IV	III	II
Chandler silt loam, 25 to 45 percent slopes	IV	III	III
Chandler stony loam, 45 to 70 percent slopes	IV	III	IV
Chandler stony silt loam, ALL	IV	III	IV
Chandler-Micaville complex, 8 to 15 percent slopes	IV	III	II
Chandler-Micaville complex, 15 to 30 percent slopes, stony	IV	III	II
Chandler-Micaville complex, 30 to 50 percent slopes, stony	IV	III	III
Chandler-Micaville complex, 50 to 95 percent slopes, stony	IV	III	IV
Cheoah channery loam, ALL	IV	I	IV
Cheoah channery loam, stony, ALL	IV	I	IV
Cheoah channery loam, windswept, stony	IV	VI	IV
Chester clay loam, 15 to 45 percent slopes, eroded (Evard)	IV	I	III
Chester fine sandy loam, 6 to 15 percent slopes (Evard)	II	I	I
Chester fine sandy loam, 15 to 25 percent slopes (Evard)	II	I	III
Chester fine sandy loam, 25 to 45 percent slopes (Evard)	IV	I	III
Chester loam, 2 to 6 percent slopes	II	I	I
Chester loam, 6 to 10 percent slopes	III	I	I
Chester loam, 10 to 25 percent slopes	IV	I	II
Chester loam, 25 to 45 percent slopes	IV	I	III
Chester stony loam, 10 to 15 percent slopes (Evard)	III	I	III

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Map Unit Name	Agri	For	Hort
Chester stony loam, (Evard), ALL OTHER	IV	I	IV
Chestnut and Edneyville soils, 15 to 25 percent slopes	IV	I	II
Chestnut and Edneyville soils, 25 to 50 percent slopes	IV	I	III
Chestnut gravelly loam, 50 to 80 percent slopes	IV	III	IV
Chestnut-Ashe complex, ALL	IV	III	IV
Chestnut-Buladean complex, 8 to 15 percent slopes, rocky	III	III	III
Chestnut-Buladean complex, stony, ALL	IV	III	IV
Chestnut-Cleveland-Rock outcrop complex, windswept, ALL	IV	VI	IV
Chestnut-Edneyville complex, 8 to 25 percent slopes, stony	IV	III	III
Chestnut-Edneyville complex, 25 to 60 percent slopes, stony	IV	III	IV
Chestnut-Edneyville complex, windswept, stony, ALL	IV	VI	IV
Chestoa-Ditney-Rock outcrop complex, 30 to 95 percent slopes, very bouldery	IV	VI	IV
Cleveland-Chestnut-Rock outcrop complex, windswept, ALL	IV	VI	IV
Cleveland-Rock outcrop complex, 8 to 90 percent slopes	IV	VI	IV
Clifffield-Cowee complex, 15 to 30 percent slopes, very stony	IV	V	IV
Clifffield-Fairview complex, 15 to 25 percent slopes	IV	V	IV
Clifffield-Pigeonroost complex, very stony, ALL	IV	V	IV
Clifffield-Rhodhiss complex, 25 to 60 percent slopes, very stony	IV	V	IV
Clifffield-Rock outcrop complex, 50 to 95 percent slopes	IV	VI	IV
Clifffield-Woolwine complex, 8 to 15 percent slopes	IV	V	IV
Clifton (Evard) stony loam, ALL	IV	I	IV
Clifton clay loam, 8 to 15 percent slopes, eroded	III	I	III
Clifton clay loam, 15 to 30 percent slopes, eroded	IV	I	III
Clifton clay loam, 30 to 50 percent slopes, eroded	IV	I	III
Clifton loam, 2 to 8 percent slopes	II	I	I
Clifton loam, 6 to 10 percent slopes	II	I	I
Clifton loam, 8 to 15 percent slopes	II	I	II
Clifton loam, 10 to 25 percent slopes	IV	I	II
Clifton loam, 15 to 25 percent slopes	IV	I	II
Clifton loam, 25 to 45 percent slopes	IV	I	III
Clifton stony loam, 15 to 45 percent slopes	IV	I	IV
Clingman-Craggey-Rock outcrop complex, windswept, 15 to 95 percent slopes, extremely bouldery	IV	VI	IV
Codorus, ALL	II	II	III
Colvard, ALL	I	II	III
Comus, ALL	I	II	III
Cowee gravelly loam, stony, ALL	IV	V	IV
Cowee-Evard-Urban land complex, 15 to 30 percent slopes	IV	III	IV
Cowee-Saluda complex, stony, ALL	IV	V	IV
Craggey-Rock outcrop complex, 40 to 90 percent slopes	IV	VI	IV
Craggey-Rock outcrop-Clingman complex, windswept, rubbly, ALL	IV	VI	IV
Crossnore-Jeffrey complex, very stony, ALL	IV	I	IV
Cullasaja cobbly fine sandy loam, 8 to 30 percent slopes, very bouldery	IV	II	IV
Cullasaja cobbly loam, extremely bouldery, ALL	IV	II	IV
Cullasaja very cobbly fine sandy loam, extremely bouldery, ALL	IV	II	IV
Cullasaja very cobbly loam, extremely bouldery, ALL	IV	II	IV
Cullasaja very cobbly sandy loam, extremely bouldery, ALL	IV	II	IV
Cullasaja-Tuckasegee complex, 8 to 15 percent slopes, stony	IV	II	II
Cullasaja-Tuckasegee complex, 15 to 30 percent slopes, stony	IV	II	II
Cullasaja-Tuckasegee complex, 30 to 50 percent slopes, stony	IV	II	III
Cullasaja-Tuckasegee complex, 50 to 90 percent slopes, stony	IV	II	IV
Cullasaja-Tuckasegee complex, 50 to 95 percent slopes, stony	IV	II	IV

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Map Unit Name	Agri	For	Hort
Cullasaja-Tusquitee complex, 10 to 45 percent slopes	IV	II	III
Cullowhee fine sandy loam, 0 to 2 percent slopes, occasionally flooded	II	II	II
Cullowhee, frequently flooded, ALL	IV	II	IV
Cullowhee-Nikwasi complex, 0 to 2 percent slopes, frequently flooded	IV	II	IV
Delanco (Dillard) loam, ALL	I	I	I
Delanco fine sandy loam, 2 to 6 percent slopes	II	I	I
Dellwood gravelly fine sandy loam, 0 to 5 percent slopes, frequently flooded	IV	II	IV
Dellwood, occasionally flooded, ALL	III	II	III
Dellwood-Reddies complex, 0 to 3 percent slopes, occasionally flooded	III	II	III
Dellwood-Urban land complex, 0 to 3 percent slopes, occasionally flooded	IV	II	IV
Dillard, ALL	I	I	I
Dillsboro clay loam, 2 to 8 percent slopes	I	I	I
Dillsboro clay loam, 8 to 15 percent slopes, rarely flooded	II	I	II
Dillsboro clay loam, 8 to 15 percent slopes, stony	III	I	II
Dillsboro clay loam, 15 to 30 percent slopes, stony	IV	I	II
Dillsboro loam, 2 to 8 percent slopes	I	I	I
Dillsboro loam, 8 to 15 percent slopes	II	I	II
Dillsboro-Urban land complex, 2 to 15 percent slopes	IV	I	IV
Ditney-Unicoi complex, very stony, ALL	IV	VI	IV
Ditney-Unicoi complex, 50 to 95 percent slopes, very rocky	IV	VI	IV
Ditney-Unicoi-Rock outcrop complex, ALL	IV	VI	IV
Edneytown gravelly sandy loam, 8 to 25 percent slopes	IV	I	III
Edneytown-Chestnut complex, 30 to 50 percent slopes, stony	IV	I	III
Edneytown-Chestnut complex, 50 to 80 percent slopes, stony	IV	I	IV
Edneytown-Pigeonroost complex, 8 to 15 percent slopes, stony	III	I	III
Edneytown-Pigeonroost complex, 15 to 30 percent slopes, stony	IV	I	III
Edneytown-Pigeonroost complex, 30 to 50 percent slopes, stony	IV	I	IV
Edneyville (Edneytown) fine sandy loam, 7 to 15 percent slopes	III	I	III
Edneyville (Edneytown) fine sandy loam, 15 to 25 percent slopes	IV	I	IV
Edneyville (Edneytown) fine sandy loam, 25 to 45 percent slopes	IV	I	IV
Edneyville loam, 15 to 25 percent slopes	IV	I	II
Edneyville loam, 25 to 45 percent slopes	IV	I	III
Edneyville stony loam, 45 to 70 percent slopes	IV	I	IV
Edneyville-Chestnut complex, 2 to 8 percent slopes, stony	III	I	III
Edneyville-Chestnut complex, 8 to 15 percent slopes, stony	IV	I	III
Edneyville-Chestnut complex, 10 to 25 percent slopes, stony	IV	I	III
Edneyville-Chestnut complex, 15 to 30 percent slopes, stony	IV	I	III
Edneyville-Chestnut complex, ALL OTHER	IV	I	IV
Edneyville-Chestnut-Urban land complex, ALL	IV	I	IV
Ellijay silty clay loam, 2 to 8 percent slopes, eroded	III	I	I
Ellijay silty clay loam, 8 to 15 percent slopes, eroded	IV	I	I
Ellijay silty clay loam, eroded, ALL OTHER	IV	I	II
Elsinboro loam, ALL	I	I	I
Eutrochrepts, mined, 30 to 50 percent slopes, very stony	IV	VI	IV
Evard and Saluda fine sandy loams, 25 to 60 percent slopes	IV	I	IV
Evard fine sandy loam, 7 to 15 percent slopes	III	I	II
Evard fine sandy loam, 15 to 25 percent slopes	IV	I	II
Evard fine sandy loam, 25 to 50 percent slopes	IV	I	III
Evard gravelly sandy loam, 6 to 15 percent slopes	III	I	II
Evard gravelly sandy loam, 15 to 25 percent slopes	IV	I	III
Evard loam, ALL	IV	I	IV
Evard soils, 15 to 25 percent slopes	IV	I	III

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Map Unit Name	Agri	For	Hort
Evard soils, ALL OTHER	IV	I	IV
Evard stony loam, 25 to 60 percent slopes	IV	I	IV
Evard-Cowee complex, 2 to 8 percent slopes	III	I	II
Evard-Cowee complex, 8 to 15 percent slopes	III	I	II
Evard-Cowee complex, 8 to 15 percent slopes, eroded	III	I	II
Evard-Cowee complex, 8 to 25 percent slopes, stony	IV	I	III
Evard-Cowee complex, ALL OTHER	IV	I	IV
Evard-Cowee-Urban land complex, ALL	IV	I	IV
Fannin fine sandy loam, 8 to 15 percent slopes	III	I	I
Fannin fine sandy loam, 15 to 30 percent slopes	IV	I	II
Fannin fine sandy loam, 15 to 30 percent slopes, stony	IV	I	II
Fannin fine sandy loam, 30 to 50 percent slopes	IV	I	II
Fannin fine sandy loam, 30 to 50 percent slopes, stony	IV	I	III
Fannin fine sandy loam, 50 to 95 percent slopes	IV	I	III
Fannin loam, 8 to 15 percent slopes	III	I	II
Fannin loam, 15 to 25 percent slopes	IV	I	III
Fannin loam, 25 to 45 percent slopes	IV	I	III
Fannin loam, 30 to 50 percent slopes, eroded	IV	I	III
Fannin loam, 45 to 70 percent slopes	IV	I	IV
Fannin sandy clay loam, 8 to 15 percent slopes, eroded	III	I	II
Fannin sandy clay loam, eroded, ALL OTHER	IV	I	III
Fannin silt loam, 6 to 10 percent slopes, eroded	III	I	II
Fannin silt loam, 7 to 15 percent slopes	III	I	II
Fannin silt loam, 10 to 25 percent slopes, eroded	IV	I	III
Fannin silt loam, 15 to 25 percent slopes	IV	I	III
Fannin silt loam, 25 to 45 percent slopes	IV	I	III
Fannin silty clay loam, 15 to 45 percent slopes, eroded	IV	I	IV
Fannin-Chestnut complex, 50 to 85 percent slopes, rocky	IV	I	IV
Fannin-Cowee complex, 15 to 30 percent slopes, stony	IV	I	III
Fannin-Cowee complex, stony, ALL OTHER	IV	I	IV
Fannin-Urban land complex, 2 to 15 percent slopes	IV	I	IV
Fletcher and Fannin soils, 6 to 15 percent slopes	III	I	II
Fletcher and Fannin soils, 15 to 25 percent slopes	IV	I	II
Fluvaquents-Udifluvents complex, occasionally flooded, ALL	III	II	IV
Fontaflora-Ostin complex	IV	II	IV
French fine sandy loam, 0 to 3 percent slopes, frequently flooded	IV	II	IV
Greenlee ALL	IV	I	IV
Greenlee-Ostin complex, 3 to 40 percent slopes, very stony	IV	I	IV
Greenlee-Tate complex, ALL	IV	I	IV
Greenlee-Tate-Ostin complex, 1 to 15 percent slopes, extremely stony	IV	I	IV
Gullied land	IV	VI	IV
Harmiller-Shinbone complex, 15 to 30 percent slopes, stony	IV	III	III
Harmiller-Shinbone complex, 30 to 50 percent slopes, stony	IV	III	III
Hatboro loam	IV	II	IV
Hayesville channery fine sandy loam, 8 to 15 percent slopes, very stony	IV	I	II
Hayesville channery fine sandy loam, 15 to 25 percent slopes, very stony	IV	I	III
Hayesville channery fine sandy loam, 25 to 60 percent slopes, very stony	IV	I	IV
Hayesville clay loam, 2 to 8 percent slopes, eroded	III	I	II
Hayesville clay loam, 6 to 15 percent slopes, eroded	IV	I	II
Hayesville clay loam, 8 to 15 percent slopes, eroded	IV	I	II
Hayesville clay loam, 10 to 25 percent slopes, severely eroded	IV	I	III
Hayesville clay loam, 15 to 30 percent slopes, eroded	IV	I	III

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Map Unit Name	Agri	For	Hort
Hayesville fine sandy loam, 6 to 15 percent slopes	III	I	I
Hayesville fine sandy loam, 8 to 15 percent slopes	III	I	I
Hayesville fine sandy loam, 15 to 25 percent slopes	III	I	II
Hayesville fine sandy loam, 15 to 30 percent slopes	III	I	II
Hayesville fine sandy loam, 25 to 50 percent slopes	IV	I	III
Hayesville loam, 2 to 7 percent slopes	II	I	I
Hayesville loam, 2 to 8 percent slopes	II	I	I
Hayesville loam, 6 to 10 percent slopes	II	I	I
Hayesville loam, 6 to 15 percent slopes	III	I	I
Hayesville loam, 7 to 15 percent slopes	III	I	I
Hayesville loam, 8 to 15 percent slopes	III	I	I
Hayesville loam, 10 to 25 percent slopes	III	I	II
Hayesville loam, 15 to 25 percent slopes	III	I	II
Hayesville loam, 15 to 30 percent slopes	III	I	II
Hayesville sandy clay loam, 15 to 30 percent slopes, eroded	IV	I	III
Hayesville sandy clay loam, eroded, ALL OTHER	III	I	II
Hayesville-Evard complex, 15 to 25 percent slopes	III	I	II
Hayesville-Evard-Urban land complex, 15 to 25 percent slopes	IV	I	IV
Hayesville-Sauratown complex, 2 to 8 percent slopes	II	I	II
Hayesville-Sauratown complex, 8 to 15 percent slopes	III	I	II
Hayesville-Sauratown complex, 15 to 25 percent slopes	III	I	III
Hayesville-Sauratown complex, 25 to 60 percent slopes	IV	I	III
Hayesville-Urban land complex, ALL	IV	I	IV
Haywood stony loam, 15 to 25 percent slopes	IV	I	III
Haywood stony loam, 25 to 50 percent slopes	IV	I	IV
Hemphill, rarely flooded, ALL	IV	II	IV
Humaquepts, loamy, 2 to 8 percent slopes, stony	IV	II	IV
Huntdale clay loam, 8 to 15 percent slopes, stony	III	I	II
Huntdale clay loam, 15 to 30 percent slopes, stony	IV	I	II
Huntdale clay loam, 30 to 50 percent slopes, stony	IV	I	III
Huntdale silty clay loam, 15 to 30 percent slopes, stony	IV	I	II
Huntdale silty clay loam, 30 to 50 percent slopes, very stony	IV	I	III
Huntdale silty clay loam, 50 to 95 percent slopes, very stony	IV	I	IV
Iotla sandy loam, 0 to 2 percent slopes, occasionally flooded	II	II	III
Junaluska-Brasstown complex, 6 to 25 percent slopes	IV	IV	II
Junaluska-Brasstown complex, 15 to 30 percent slopes	IV	IV	III
Junaluska-Brasstown complex, 25 to 60 percent slopes	IV	IV	III
Junaluska-Brasstown complex, 30 to 50 percent slopes	IV	IV	IV
Junaluska-Tsali complex, ALL	IV	IV	IV
Keener-Lostcove complex, 15 to 30 percent slopes, very stony	IV	I	III
Keener-Lostcove complex, 30 to 50 percent slopes, very stony	IV	I	IV
Kinkora loam	IV	I	III
Lonon loam, 2 to 8 percent slopes	I	I	I
Lonon loam, 8 to 15 percent slopes	II	I	I
Lonon loam, 15 to 30 percent slopes	IV	I	II
Lonon-Northcove complex, 6 to 15 percent slopes	IV	I	III
Maymead fine sandy loam, ALL	IV	I	II
Maymead-Greenlee-Potomac complex, 3 to 25 percent slopes	IV	I	IV
Nikwasi, ALL	IV	II	IV
Northcove very cobbly loam, ALL	IV	I	IV
Northcove-Maymead complex, extremely stony, ALL	IV	I	IV
Oconaluftee channery loam, ALL	IV	VI	IV

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Map Unit Name	Agri	For	Hort
Oconaluftee channery loam, windswept, ALL	IV	VI	IV
Ostin, occasionally flooded, ALL	IV	II	IV
Pigeonroost-Edneytown complex, stony, ALL	IV	I	III
Pineola gravelly loam, 2 to 8 percent slopes	IV	I	II
Pineola gravelly loam, 8 to 15 percent slopes, stony	IV	I	II
Pineola gravelly loam, 15 to 30 percent slopes, stony	IV	I	III
Pits, ALL	IV	VI	IV
Plott fine sandy loam, 8 to 15 percent slopes, stony	III	I	II
Plott fine sandy loam, 15 to 30 percent slopes, stony	IV	I	II
Plott fine sandy loam, 30 to 50 percent slopes, stony	IV	I	III
Plott fine sandy loam, 50 to 95 percent slopes, stony	IV	I	IV
Plott loam, 15 to 30 percent slopes, stony	IV	I	II
Plott loam, 30 to 50 percent slopes, stony	IV	I	III
Plott loam, 50 to 95 percent slopes, stony	IV	I	IV
Ponzer muck, cool variant	IV	VI	IV
Porters gravelly loam, 8 to 15 percent slopes, stony	III	I	II
Porters gravelly loam, 15 to 30 percent slopes, stony	IV	I	II
Porters gravelly loam, 30 to 50 percent slopes, stony	IV	I	III
Porters gravelly loam, 50 to 80 percent slopes, stony	IV	I	IV
Porters loam, 25 to 45 percent slopes	IV	I	III
Porters loam, 25 to 80 percent slopes, stony	IV	I	IV
Porters loam, 30 to 50 percent slopes, stony	IV	I	IV
Porters loam, ALL OTHER	IV	I	II
Porters stony loam, 10 to 25 percent slopes	IV	I	II
Porters stony loam, 15 to 25 percent slopes	IV	I	II
Porters stony loam, 15 to 45 percent slopes	IV	I	II
Porters stony loam, 25 to 45 percent slopes	IV	I	III
Porters stony loam, ALL OTHER	IV	I	IV
Porters-Unaka complex, 8 to 15 percent slopes, stony	IV	I	II
Porters-Unaka complex, 15 to 30 percent slopes, stony	IV	I	II
Porters-Unaka complex, 30 to 50 percent slopes, stony	IV	I	III
Porters-Unaka complex, 50 to 95 percent slopes, rocky	IV	I	IV
Potomac, frequently flooded, ALL	IV	II	IV
Potomac-Iotla complex, 0 to 3 percent slopes, mounded, frequently flooded	IV	II	IV
Rabun loam, 6 to 25 percent slopes	IV	I	II
Rabun loam, 25 to 50 percent slopes	IV	I	III
Reddies, occasionally flooded	II	II	II
Reddies, frequently flooded, ALL	IV	II	IV
Rock outcrop	IV	VI	IV
Rock outcrop-Ashe complex, ALL	IV	VI	IV
Rock outcrop-Ashe-Cleveland complex, ALL	IV	VI	IV
Rock outcrop-Cataska complex, ALL	IV	VI	IV
Rock outcrop-Cleveland complex, ALL	IV	VI	IV
Rock outcrop-Cleveland complex, windswept, ALL	IV	VI	IV
Rock outcrop-Craggey complex, windswept, ALL	IV	VI	IV
Rosman, frequently flooded, ALL	IV	II	IV
Rosman, ALL OTHER	I	II	I
Rosman-Reddies complex, 0 to 3 percent slopes, occasionally flooded	I	II	I
Saunook gravelly loam, 2 to 8 percent slopes	I	I	I
Saunook gravelly loam, 8 to 15 percent slopes	I	I	I
Saunook gravelly loam, 8 to 15 percent slopes, stony	II	I	II
Saunook gravelly loam, 15 to 30 percent slopes	IV	I	II

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Map Unit Name	Agri	For	Hort
Saunook gravelly loam, 15 to 30 percent slopes, stony	IV	I	II
Saunook gravelly loam, 30 to 50 percent slopes, stony	IV	I	III
Saunook loam, 2 to 8 percent slopes	I	I	I
Saunook loam, 8 to 15 percent slopes	I	I	I
Saunook loam, 8 to 15 percent slopes, stony	II	I	II
Saunook loam, 15 to 30 percent slopes, stony	IV	I	II
Saunook loam, 15 to 30 percent slopes, very stony	IV	I	III
Saunook loam, 30 to 50 percent slopes, very stony	IV	I	IV
Saunook sandy loam, 2 to 8 percent slopes	I	I	I
Saunook sandy loam, 8 to 15 percent slopes, stony	II	I	II
Saunook silt loam, 2 to 8 percent slopes	I	I	I
Saunook silt loam, 8 to 15 percent slopes, stony	II	I	II
Saunook-Nikwasi complex, 2 to 15 percent slopes	IV	I	III
Saunook-Thunder complex, ALL	IV	I	III
Saunook-Urban land complex, 2 to 15 percent slopes	IV	I	IV
Sauratown channery fine sandy loam, 8 to 15 percent slopes	IV	V	III
Sauratown channery fine sandy loam, 8 to 15 percent slopes, very stony	IV	V	III
Sauratown channery fine sandy loam, ALL OTHER	IV	V	IV
Soco-Cataska-Rock outcrop complex, 50 to 95 percent slopes	IV	VI	IV
Soco-Ditney complex, 6 to 25 percent slopes, stony	IV	III	III
Soco-Ditney complex, 8 to 15 percent slopes, very stony	IV	III	III
Soco-Ditney complex, 15 to 30 percent slopes, very stony	IV	III	III
Soco-Ditney complex, ALL OTHER	IV	III	IV
Soco-Stecoah complex, 8 to 15 percent slopes, stony	IV	III	II
Soco-Stecoah complex, 15 to 30 percent slopes	IV	III	III
Soco-Stecoah complex, 15 to 30 percent slopes, stony	IV	III	III
Soco-Stecoah complex, ALL OTHER	IV	III	IV
Soco-Stecoah complex, windswept, 30 to 50 percent slopes	IV	VI	IV
Spivey cobbly loam, extremely bouldery, ALL	IV	I	IV
Spivey stony loam, 10 to 40 percent slopes	IV	I	IV
Spivey-Santeetlah complex, 8 to 15 percent slopes, stony	IV	I	III
Spivey-Santeetlah complex, 15 to 30 percent slopes, stony	IV	I	III
Spivey-Santeetlah complex, stony, ALL OTHER	IV	I	IV
Spivey-Whiteoak complex, ALL	IV	I	IV
Statler, rarely flooded, ALL	I	I	I
Stecoah-Soco complex, 15 to 30 percent slopes, stony	IV	I	III
Stecoah-Soco complex, 30 to 50 percent slopes, stony	IV	I	III
Stecoah-Soco complex, 50 to 80 percent slopes, stony	IV	I	IV
Stony colluvial land	IV	II	IV
Stony land	IV	VI	IV
Stony steep land	IV	VI	IV
Suncook loamy sand, ALL	IV	II	II
Sylco-Cataska complex, ALL	IV	IV	IV
Sylco-Rock outcrop complex, 50 to 95 percent slopes	IV	IV	IV
Sylco-Soco complex, 10 to 30 percent slopes, stony	IV	IV	IV
Sylva-Whiteside complex, ALL	IV	I	II
Talladega, ALL	IV	IV	IV
Tanasee-Balsam complex, ALL	IV	VI	IV
Tate fine sandy loam, 2 to 6 percent slopes	I	I	I
Tate fine sandy loam, 2 to 7 percent slopes	I	I	I
Tate fine sandy loam, 2 to 8 percent slopes	I	I	I
Tate fine sandy loam, 2 to 8 percent slopes, very stony	IV	I	II

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Map Unit Name	Agri	For	Hort
Tate fine sandy loam, 6 to 15 percent slopes	II	I	I
Tate fine sandy loam, 7 to 15 percent slopes	II	I	I
Tate fine sandy loam, 8 to 15 percent slopes	II	I	I
Tate fine sandy loam, 8 to 25 percent slopes	IV	I	II
Tate fine sandy loam, 15 to 25 percent slopes	IV	I	II
Tate gravelly loam, 8 to 15 percent slopes	II	I	I
Tate gravelly loam, 8 to 15 percent slopes, stony	II	I	II
Tate gravelly loam, 15 to 30 percent slopes, stony	IV	I	II
Tate loam, 2 to 6 percent slopes	I	I	I
Tate loam, 2 to 8 percent slopes	I	I	I
Tate loam, 6 to 10 percent slopes	II	I	I
Tate loam, 6 to 15 percent slopes	II	I	I
Tate loam, 8 to 15 percent slopes	II	I	I
Tate loam, 10 to 15 percent slopes	II	I	I
Tate loam, 15 to 25 percent slopes	IV	I	II
Tate loam, 15 to 30 percent slopes	IV	I	II
Tate-Cullowhee complex, 0 to 25 percent slopes	IV	I	II
Tate-French complex, 2 to 10 percent slopes	II	I	II
Tate-Greenlee complex, ALL	IV	I	IV
Thunder-Saunook complex, ALL	IV	II	IV
Toecane-Tusquitee complex, ALL	IV	II	III
Toxaway, ALL	IV	II	IV
Transylvania silt loam	I	II	II
Trimont gravelly loam, ALL	IV	I	IV
Tuckasegee-Cullasaja complex, 8 to 15 percent slopes, stony	IV	II	III
Tuckasegee-Cullasaja complex, 15 to 30 percent slopes, very stony	IV	II	IV
Tuckasegee-Cullasaja complex, 30 to 50 percent slopes, extremely stony	IV	II	IV
Tuckasegee-Whiteside complex, 2 to 8 percent slopes	I	II	I
Tuckasegee-Whiteside complex, 8 to 15 percent slopes	II	II	I
Tusquitee and Spivey stony soils, ALL	IV	I	IV
Tusquitee loam, 6 to 10 percent slopes	I	I	I
Tusquitee loam, 6 to 15 percent slopes	II	I	I
Tusquitee loam, 7 to 15 percent slopes	II	I	I
Tusquitee loam, 8 to 15 percent slopes	II	I	I
Tusquitee loam, 10 to 15 percent slopes	II	I	I
Tusquitee loam, 15 to 25 percent slopes	IV	I	II
Tusquitee stony loam, 25 to 45 percent slopes	IV	I	IV
Tusquitee stony loam, ALL OTHER	IV	I	III
Udifluvents, frequently flooded, ALL	IV	II	IV
Udorthents, loamy, ALL	IV	V	IV
Udorthents-Pits complex, mounded, 0 to 2 percent slopes, occasionally flooded	IV	V	IV
Udorthents-Urban land complex, ALL	IV	V	IV
Unaka-Porters complex, very rocky, ALL	IV	V	IV
Unaka-Rock outcrop complex, 50 to 95 percent slopes, very bouldery	IV	VI	IV
Unicoi-Rock outcrop complex, 30 to 95 percent slopes, extremely bouldery	IV	V	IV
Unison fine sandy loam, 2 to 8 percent slopes	I	I	I
Unison fine sandy loam, 8 to 15 percent slopes	II	I	I
Unison fine sandy loam, 15 to 25 percent slopes	IV	I	II
Unison loam, 2 to 8 percent slopes	I	I	I
Unison loam, 8 to 15 percent slopes	II	I	I
Unison loam, 15 to 30 percent slopes	IV	I	II
Urban land	IV	VI	II

MLRA 130 – Mountains

Map Unit Name	Agri	For	Hort
Watauga loam, 6 to 10 percent slopes	III	I	II
Watauga loam, 6 to 15 percent slopes	III	I	II
Watauga loam, 8 to 15 percent slopes	III	I	II
Watauga loam, ALL OTHER	IV	I	III
Watauga sandy loam, 8 to 15 percent slopes, stony	III	I	II
Watauga sandy loam, 15 to 30 percent slopes, stony	IV	I	II
Watauga sandy loam, 30 to 50 percent slopes, stony	IV	I	III
Watauga stony loam, 15 to 45 percent slopes	IV	I	IV
Wayah loam, windswept, eroded, stony, ALL	IV	VI	IV
Wayah sandy loam, stony, ALL	IV	V	IV
Wayah sandy loam, windswept, stony, ALL	IV	VI	IV
Wayah-Burton complex, 15 to 30 percent slopes, bouldery	IV	V	IV
Wayah-Burton complex, 30 to 50 percent slopes, bouldery	IV	V	IV
Wayah-Burton complex, 50 to 95 percent slopes, very rocky	IV	V	IV
Wayah-Burton complex, windswept, ALL	IV	V	IV
Whiteoak cobbly loam, 8 to 15 percent slopes, stony	II	I	II
Whiteoak cobbly loam, 15 to 30 percent slopes, stony	IV	I	III
Whiteoak fine sandy loam, 2 to 8 percent slopes	I	I	I
Whiteoak fine sandy loam, 8 to 15 percent slopes, stony	II	I	II
Whiteoak fine sandy loam, 15 to 30 percent slopes, very stony	IV	I	III
Whiteside-Tuckasegee complex, 2 to 8 percent slopes	I	I	I

MLRA133A - Upper Coastal Plain

Map Unit Name	Agri	For	Hort
Alluvial land, wet	III	III	III
Alpin, ALL	IV	II	IV
Altavista, ALL	I	I	I
Altavista-Urban land complex, 0 to 3 percent slopes, rarely flooded	IV	I	IV
Augusta, ALL	I	I	I
Autryville loamy sand, ALL	III	II	III
Autryville, ALL OTHER	IV	II	IV
Autryville-Urban land complex, 0 to 6 percent slopes	IV	II	IV
Aycock very fine sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Aycock, ALL OTHER	I	II	I
Ballahack fine sandy loam	I	I	I
Barclay very fine sandy loam	I	I	I
Bethera loam, 0 to 1 percent slopes	II	I	II
Bibb and Johnston soils, frequently flooded	IV	III	IV
Bibb, ALL	IV	III	IV
Blaney, ALL	IV	II	IV
Blanton, ALL	IV	V	IV
Bojac loamy fine sand, 0 to 3 percent slopes	III	II	III
Bonneau loamy fine sand, 0 to 4 percent slopes	II	II	II
Bonneau loamy sand, 0 to 4 percent slopes	II	II	II
Bonneau loamy sand, 0 to 6 percent slopes	II	II	II
Bonneau loamy sand, 6 to 12 percent slopes	III	II	III
Bonneau sand, 0 to 3 percent slopes	II	II	II
Butters fine sand, 0 to 2 percent slopes	II	II	II
Butters loamy sand, 0 to 2 percent slopes	II	II	II
Byars loam	II	I	II
Candor sand, 1 to 8 percent slopes	IV	V	IV
Candor sand, 8 to 15 percent slopes	IV	V	IV
Cape Fear loam	I	I	I
Caroline sandy loam, 0 to 2 percent slopes	II	II	II
Caroline sandy loam, 2 to 6 percent slopes	II	II	II
Centenary sand	IV	II	IV
Chastain and Bibb soils, 0 to 1 percent slopes, frequently flooded	IV	III	IV
Chastain silt loam, frequently flooded	IV	III	IV
Chewacla and Chastain soils, frequently flooded	IV	III	IV
Chewacla and Congaree loams, frequently flooded	III	III	III
Chewacla and Wehadkee soils, 0 to 1 percent slopes, frequently flooded	IV	III	IV
Chewacla loam	II	III	II
Chewacla loam, 0 to 1 percent slopes, occasionally flooded	II	III	II
Chewacla loam, frequently flooded	IV	III	IV
Chewacla silt loam	II	III	II
Chipley loamy sand (Pactolus)	IV	II	IV
Chipley sand, 0 to 2 percent slopes	IV	II	IV
Conetoe loamy sand, ALL	III	II	III
Congaree silt loam	I	III	I
Congaree silt loam, frequently flooded	I	III	I
Cowarts loamy sand, 2 to 6 percent slopes	II	I	II
Cowarts loamy sand, 6 to 10 percent slopes	III	I	III
Cowarts sandy loam, 6 to 12 percent slopes, eroded	IV	I	IV
Coxville loam	II	I	II
Coxville sandy loam	II	I	II
Craven fine sandy loam, 0 to 1 percent slopes	II	I	II

MLRA133A - Upper Coastal Plain

Map Unit Name	Agri	For	Hort
Craven fine sandy loam, 1 to 4 percent slopes	II	I	II
Craven fine sandy loam, 4 to 10 percent slopes	III	I	III
Craven loam, 1 to 4 percent slopes	II	I	II
Craven sandy clay loam, 1 to 4 percent slopes, eroded	II	I	II
Craven sandy loam, 2 to 6 percent slopes, eroded	II	I	II
Craven sandy loam, 2 to 6 percent slopes, eroded (Gritney)	II	I	II
Craven sandy loam, 6 to 10 percent slopes, eroded (Gritney)	III	I	III
Craven-Urban land complex, 0 to 4 percent slopes	IV	I	IV
Croatan muck	I	V	I
Deloss loam	I	III	I
Dogue, ALL	II	I	II
Dothan loamy sand, 2 to 6 percent slopes	II	I	II
Dothan, ALL OTHER	I	I	I
Dragston loamy sand	I	III	I
Dunbar, ALL	II	I	II
Duplin, ALL	II	I	II
Duplin-Urban land complex, 0 to 5 percent slopes	IV	I	IV
Dystrochrepts, steep	IV	II	IV
Emporia, ALL	II	II	II
Emporia-Urban land complex, 0 to 6 percent slopes	IV	II	IV
Emporia-Wedowee complex, 2 to 6 percent slopes	II	II	II
Eustis, ALL	IV	II	IV
Exum, ALL	I	II	I
Faceville fine sandy loam, ALL	II	II	II
Faceville loamy sand, 6 to 10 percent slopes, eroded	IV	II	IV
Faceville loamy sand, ALL OTHER	II	II	II
Faceville sandy loam, 0 to 2 percent slopes	II	II	II
Faceville sandy loam, 2 to 6 percent slopes	II	II	II
Faceville sandy loam, 2 to 6 percent slopes, eroded	III	II	III
Faceville sandy loam, 6 to 10 percent slopes, eroded	IV	II	IV
Faceville-Urban land complex, 0 to 6 percent slopes	IV	II	IV
Foreston loamy sand, ALL	II	II	II
Fuquay, ALL	IV	II	IV
Gilead loamy sand, 0 to 2 percent slopes	III	II	III
Gilead loamy sand, 10 to 15 percent slopes	IV	II	IV
Gilead loamy sand, 2 to 6 percent slopes	IV	II	IV
Gilead loamy sand, 2 to 6 percent slopes, eroded	III	II	III
Gilead loamy sand, 6 to 10 percent slopes	IV	II	IV
Gilead loamy sand, 6 to 10 percent slopes, eroded	IV	II	IV
Gilead sandy loam, 2 to 8 percent slopes	III	II	III
Gilead sandy loam, 8 to 15 percent slopes	IV	II	IV
Goldsboro, ALL	I	I	I
Goldsboro-Urban land complex, ALL	IV	I	IV
Grantham, ALL	I	I	I
Grantham-Urban land complex	IV	I	IV
Griton-Meggett complex, occasionally flooded	IV	I	IV
Gritney fine sandy loam, 2 to 6 percent slopes	II	II	II
Gritney fine sandy loam, 2 to 7 percent slopes	II	II	II
Gritney fine sandy loam, 4 to 8 percent slopes	III	II	III
Gritney fine sandy loam, 5 to 12 percent slopes, eroded	IV	II	IV
Gritney fine sandy loam, 6 to 10 percent slopes	III	II	III
Gritney fine sandy loam, 7 to 15 percent slopes	IV	II	IV

MLRA133A - Upper Coastal Plain

Map Unit Name	Agri	For	Hort
Gritney fine sandy loam, 10 to 15 percent slopes	IV	II	IV
Gritney loamy fine sand, 2 to 7 percent slopes	II	II	II
Gritney sandy clay loam, ALL	III	II	III
Gritney sandy loam, 2 to 5 percent slopes, eroded	III	II	III
Gritney sandy loam, 2 to 6 percent slopes	II	II	II
Gritney sandy loam, 5 to 12 percent slopes, eroded	IV	II	IV
Gritney sandy loam, 6 to 10 percent slopes	III	II	III
Gritney-Urban land complex, 2 to 12 percent slopes	IV	II	IV
Hoffman loamy sand, 6 to 10 percent slopes, eroded (Gilead)	IV	II	IV
Hoffman loamy sand, 10 to 20 percent slopes (Gilead)	III	II	III
Johns, ALL	II	I	II
Johnston, ALL	IV	III	IV
Kalmia loamy sand, 0 to 2 percent slopes	II	II	II
Kalmia loamy sand, 0 to 3 percent slopes	II	II	II
Kalmia loamy sand, 2 to 6 percent slopes	II	II	II
Kalmia loamy sand, 10 to 15 percent slopes	III	II	III
Kalmia loamy sand, 15 to 25 percent slopes	IV	II	IV
Kenansville, ALL	III	II	III
Kinston, ALL	IV	III	IV
Kureb sand, 1 to 8 percent slopes	IV	V	IV
Lakeland, ALL	IV	V	IV
Leaf loam	III	I	III
Lenoir loam	III	I	III
Leon sand, ALL	IV	V	IV
Liddell very fine sandy loam	I	I	I
Lillington-Turbeville complex, 8 to 15 percent slopes	III	II	III
Lucy loamy sand	II	II	II
Lumbee, ALL	II	I	II
Lynchburg, ALL	I	I	I
Lynchburg-Urban land complex	IV	I	IV
Lynn Haven and Torhunta soils	II	II	II
Mantachie soils, local alluvium	II	III	II
Marlboro, ALL	II	II	II
Marlboro-Cecil complex, 2 to 8 percent slopes	II	II	II
Marvyn and Gritney soils. 6 to 15 percent slopes	IV	I	IV
Marvyn loamy sand, 6 to 12 percent slopes	IV	I	IV
Maxton loamy sand, 0 to 2 percent slopes	II	II	II
McColl loam	III	II	III
McQueen loam, 1 to 6 percent slopes	II	II	II
Meggett, ALL	IV	I	IV
Muckalee, ALL	IV	III	IV
Myatt very fine sandy loam	II	I	II
Nahunta, ALL	I	I	I
Nankin ,ALL	II	II	II
Nixonton very fine sandy loam	I	I	I
Norfolk and Faceville soils, 6 to 10 percent slopes	II	II	II
Norfolk loamy fine sand, ALL	I	II	I
Norfolk loamy sand, 0 to 2 percent slopes	I	II	I
Norfolk loamy sand, 2 to 6 percent slopes	I	II	I
Norfolk loamy sand, 2 to 6 percent slopes, eroded	II	II	II
Norfolk loamy sand, 6 to 10 percent slopes	II	II	II
Norfolk loamy sand, 6 to 10 percent slopes, eroded	III	II	III

MLRA133A - Upper Coastal Plain

Map Unit Name	Agri	For	Hort
Norfolk sandy loam, 0 to 2 percent slopes	I	II	I
Norfolk sandy loam, 2 to 6 percent slopes	I	II	I
Norfolk sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Norfolk sandy loam, 6 to 10 percent slopes	II	II	II
Norfolk, Georgeville, and Faceville soils, 2 to 8 percent slopes	II	II	II
Norfolk-Urban land complex, 0 to 3 percent slopes	IV	II	IV
Norfolk-Wedowee complex, 2 to 6 percent slopes	II	II	II
Ocilla, ALL	III	II	III
Okenee loam (Paxville)	II	III	II
Orangeburg loamy sand, eroded, ALL	II	II	II
Orangeburg loamy sand, ALL OTHER	I	II	I
Pactolus, ALL	IV	II	IV
Pamlico muck	III	V	III
Pantego, ALL	I	I	I
Paxville fine sandy loam	II	III	II
Paxville loam	II	III	II
Peawick, ALL	II	II	II
Pits-Tarboro complex	IV	VI	IV
Plummer and Osier soils	IV	I	IV
Plummer, ALL	IV	V	IV
Pocalla loamy sand, 0 to 3 percent slopes	III	II	III
Polawana loamy sand, frequently flooded	IV	III	IV
Ponzer muck, siliceous subsoil variant	I	V	I
Portsmouth, ALL	I	I	I
Rains, ALL	I	I	I
Rains-Toisnot complex, 0 to 2 percent slopes	IV	I	IV
Rains-Urban land complex, ALL	IV	I	IV
Rimini sand	IV	V	IV
Riverview loam, 0 to 1 percent slopes, occasionally flooded	I	III	I
Roanoke and Wahee loams	II	III	II
Roanoke, ALL	II	III	II
Roanoke-Urban land complex	IV	III	IV
Ruston loamy sand, ALL	III	II	III
Ruston sandy loam, 2 to 6 percent slopes, eroded	IV	II	IV
Rutlege loamy sand	IV	V	IV
Seabrook loamy sand, rarely flooded	IV	II	IV
Smoothed sandy land	IV	VI	IV
St. Lucie sand (Kureb)	IV	V	IV
Stallings, ALL	II	II	II
State, ALL	I	I	I
Swamp	IV	III	IV
Tarboro, ALL	IV	II	IV
Toisnot, ALL	IV	II	IV
Tomahawk sand	III	II	III
Tomotley, ALL	I	I	I
Torhunta and Lynn Haven soils	II	I	II
Torhunta, ALL	I	I	I
Trebloc loam	I	I	I
Troup sand	IV	II	IV
Turbeville fine sandy loam, 2 to 6 percent slopes	I	II	I
Turbeville gravelly sandy loam, 2 to 8 percent slopes	II	II	II
Turbeville loamy sand, 0 to 2 percent slopes	I	II	I

MLRA133A - Upper Coastal Plain

Map Unit Name	Agri	For	Hort
Turbeville loamy sand, 2 to 6 percent slopes	I	II	I
Turbeville sandy clay loam, 2 to 6 percent slopes, eroded	II	II	II
Turbeville sandy loam, 0 to 2 percent slopes	I	II	I
Turbeville sandy loam, 2 to 6 percent slopes	I	II	I
Turbeville sandy loam, 2 to 8 percent slopes	I	II	I
Turbeville sandy loam, 6 to 12 percent slopes	II	II	II
Turbeville-Urban land complex, 0 to 8 percent slopes	IV	II	IV
Uchee, ALL	III	V	III
Udorthents, loamy	IV	VI	IV
Urban land	IV	VI	IV
Varina, ALL	II	II	II
Vaucluse loamy sand, 10 to 15 percent slopes	IV	II	IV
Vaucluse loamy sand, 10 to 15 percent slopes, eroded	IV	II	IV
Vaucluse loamy sand, 2 to 6 percent slopes	III	II	III
Vaucluse loamy sand, 2 to 6 percent slopes, eroded	III	II	III
Vaucluse loamy sand, 6 to 10 percent slopes	III	II	III
Vaucluse loamy sand, 6 to 10 percent slopes, eroded	III	II	III
Wagram fine sand, 0 to 6 percent slopes	II	II	II
Wagram loamy sand, 0 to 2 percent slopes	II	II	II
Wagram loamy sand, 0 to 6 percent slopes	II	II	II
Wagram loamy sand, 2 to 6 percent slopes	II	II	II
Wagram loamy sand, 6 to 10 percent slopes	III	II	III
Wagram loamy sand, 10 to 15 percent slopes	III	II	III
Wagram sand, thick surface, 0 to 6 percent slopes	II	II	II
Wagram sand, thick surface, 6 to 10 percent slopes	III	II	III
Wagram sand, thick surface, 10 to 15 percent slopes	III	II	III
Wagram-Troup sands, 0 to 4 percent slopes	IV	II	IV
Wagram-Urban land complex, ALL	IV	II	IV
Wahee, ALL	I	I	I
Wakulla, ALL	IV	V	IV
Wehadkee and Chewacla loams	IV	III	IV
Wehadkee, ALL	IV	III	IV
Wehadkee-Chastain association, frequently flooded	IV	III	IV
Weston loamy sand	III	I	III
Wickham fine sandy loam, 6 to 15 percent slopes, rarely flooded	II	I	II
Wickham fine sandy loam, ALL OTHER	I	I	I
Wickham loamy sandy, ALL	I	I	I
Wickham sandy loam, 0 to 4 percent slopes	I	I	I
Wickham sandy loam, 2 to 6 percent slopes, eroded	II	I	II
Wickham-Urban land complex, 1 to 6 percent slopes	IV	I	IV
Wilbanks loam, frequently flooded	IV	III	IV
Wilbanks silt loam	IV	III	IV
Winton fine sandy loam, ALL	IV	I	IV
Woodington loamy sand	II	II	II

MLRA136 -- Piedmont

Map Unit Name	Agri	For	Hort
Ailey-Appling complex, 2 to 8 percent slopes	II	II	II
Ailey-Appling complex, 8 to 15 percent slopes, bouldery	IV	II	III
Alamance silt loam, gently sloping phase	II	II	II
Alamance variant gravelly loam, ALL	IV	II	II
Altavista fine sandy loam, 2 to 6 percent slopes, eroded	II	I	I
Altavista fine sandy loam, 7 to 10 percent slopes	II	I	I
Altavista fine sandy loam, 0 to 2 percent slopes occasionally flooded	I	I	II
Altavista fine sandy loam, ALL OTHER	I	I	I
Altavista fine sandy loam, clayey variant	I	I	I
Altavista loam, 0 to 3 percent slopes, rarely flooded	I	I	I
Altavista sandy loam, ALL	I	I	I
Altavista silt loam, ALL	I	I	I
Appling coarse sandy loam, eroded gently sloping phase	II	II	II
Appling coarse sandy loam, eroded sloping phase	II	II	II
Appling coarse sandy loam, ALL OTHER	II	II	I
Appling fine sandy loam, 2 to 6 percent slopes	II	II	I
Appling fine sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Appling fine sandy loam, 2 to 7 percent slopes	II	II	I
Appling fine sandy loam, 2 to 7 percent slopes, eroded	II	II	II
Appling fine sandy loam, 6 to 10 percent slopes	II	II	I
Appling fine sandy loam, 6 to 10 percent slopes, eroded	II	II	II
Appling fine sandy loam, 7 to 10 percent slopes (Wedowee)	II	II	I
Appling fine sandy loam, 7 to 10 percent slopes, eroded (Wedowee)	II	II	II
Appling fine sandy loam, 10 to 14 percent slopes (Wedowee)	III	II	II
Appling fine sandy loam, 10 to 14 percent slopes, eroded (Wedowee)	III	II	II
Appling fine sandy loam, (Wedowee), ALL OTHER	IV	II	II
Appling gravelly sandy loam, 2 to 6 percent slopes	II	II	I
Appling gravelly sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Appling gravelly sandy loam, 6 to 10 percent slopes	II	II	I
Appling gravelly sandy loam, 6 to 10 percent slopes, eroded	II	II	II
Appling loamy sand, 2 to 6 percent slopes	II	II	I
Appling sandy clay loam, 6 to 10 percent slopes, severely eroded	III	II	II
Appling sandy clay loam, 10 to 15 percent slopes, severely eroded	IV	II	II
Appling sandy clay loam, severely eroded sloping phase	III	II	III
Appling sandy loam, 1 to 6 percent slopes	II	II	I
Appling sandy loam, 2 to 6 percent slopes	II	II	I
Appling sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Appling sandy loam, 2 to 8 percent slopes	II	II	I
Appling sandy loam, 6 to 10 percent slopes	II	II	I
Appling sandy loam, 6 to 10 percent slopes, eroded	II	II	II
Appling sandy loam, 6 to 12 percent slopes	II	II	II
Appling sandy loam, 8 to 15 percent slopes	II	II	II
Appling sandy loam, 10 to 15 percent slopes	III	II	II
Appling sandy loam, 10 to 15 percent slopes, eroded	III	II	II
Appling sandy loam, 10 to 25 percent slopes, eroded (Wedowee)	IV	II	II
Appling sandy loam, 15 to 25 percent slopes (Wedowee)	IV	II	II
Appling sandy loam, 15 to 25 percent slopes, eroded (Wedowee)	IV	II	II
Appling sandy loam, eroded gently sloping phase	II	II	II
Appling sandy loam, eroded sloping phase	II	II	II
Appling sandy loam, eroded strongly sloping phase	III	II	II
Appling sandy loam, gently sloping phase	II	II	I
Appling sandy loam, moderately steep phase (Wedowee)	III	II	II

MLRA136 – Piedmont

Map Unit Name	Agri	For	Hort
Appling sandy loam, sloping phase	II	II	II
Appling sandy loam, strongly sloping phase	II	II	II
Appling-Marlboro complex, 1 to 6 percent slopes	II	II	II
Appling-Urban land complex, ALL	IV	II	IV
Armenia, ALL	IV	III	III
Ashlar-Rock outcrop complex, ALL	IV	V	IV
Augusta, ALL	III	I	II
Ayersville gravelly loam, ALL	IV	V	II
Badin channery loam, 8 to 15 percent slopes	III	II	II
Badin channery silt loam, 2 to 8 percent slopes	III	II	II
Badin channery silt loam, 8 to 15 percent slopes	III	II	II
Badin channery silt loam, ALL OTHER	IV	II	II
Badin channery silty clay loam, eroded, ALL	III	II	II
Badin silty clay loam, 2 to 8 percent slopes, moderately eroded	III	II	II
Badin silty clay loam, 8 to 15 percent slopes, moderately eroded	IV	II	II
Badin-Goldston complex, 2 to 8 percent slopes	III	II	II
Badin-Goldston complex, 8 to 15 percent slopes	IV	II	III
Badin-Goldston complex, 15 to 25 percent slopes	IV	II	IV
Badin-Nanford complex, 15 to 30 percent slopes	IV	II	IV
Badin-Tarrus complex, 2 to 8 percent slopes	II	II	I
Badin-Tarrus complex, 2 to 8 percent slopes, moderately eroded	III	II	I
Badin-Tarrus complex, 8 to 15 percent slopes	III	II	II
Badin-Tarrus complex, 8 to 15 percent slopes, moderately eroded	IV	II	II
Badin-Tarrus complex, 15 to 25 percent slopes	IV	II	II
Badin-Tarrus complex, 25 to 45 percent slopes	IV	II	IV
Badin-Urban land complex, ALL	IV	II	IV
Banister loam, 1 to 6 percent slopes, rarely flooded	II	I	I
Bethlehem gravelly sandy loam, 2 to 8 percent slopes	III	II	II
Bethlehem gravelly sandy loam, 8 to 15 percent slopes	IV	II	II
Bethlehem-Hibriten complex, 6 to 15 percent slopes	IV	II	III
Bethlehem-Urban land complex, 2 to 15 percent slopes	IV	II	IV
Buncombe, ALL	IV	III	IV
Callison-Lignum complex, 2 to 6 percent slopes	III	II	II
Callison-Misenheimer complex, 6 to 10 percent slopes	III	II	II
Carbonton-Brickhaven complex, ALL	IV	II	IV
Cartecay and Chewacla soils	II	III	III
Cecil clay loam, 2 to 6 percent slopes, eroded	III	II	II
Cecil clay loam, 2 to 6 percent slopes, severely eroded	III	II	II
Cecil clay loam, 2 to 7 percent slopes, severely eroded	III	II	II
Cecil clay loam, 2 to 8 percent slopes, eroded	III	II	II
Cecil clay loam, 6 to 10 percent slopes, eroded	III	II	II
Cecil clay loam, 6 to 10 percent slopes, severely eroded	IV	II	II
Cecil clay loam, ALL OTHER	IV	II	II
Cecil fine sandy loam, 2 to 6 percent slopes	II	II	I
Cecil fine sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Cecil fine sandy loam, 2 to 7 percent slopes	II	II	I
Cecil fine sandy loam, 2 to 7 percent slopes, eroded	II	II	II
Cecil fine sandy loam, 2 to 8 percent slopes	II	II	I
Cecil fine sandy loam, 6 to 10 percent slopes	III	II	II
Cecil fine sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Cecil fine sandy loam, 7 to 10 percent slopes (Pacolet)	III	II	II
Cecil fine sandy loam, 7 to 10 percent slopes, eroded (Pacolet)	III	II	II

MLRA136 – Piedmont

Map Unit Name	Agri	For	Hort
Cecil fine sandy loam, 8 to 15 percent slopes	III	II	II
Cecil fine sandy loam, 10 to 14 percent slopes (Pacolet)	III	II	II
Cecil fine sandy loam, 10 to 14 percent slopes, eroded (Pacolet)	III	II	II
Cecil fine sandy loam, 10 to 15 percent slopes	III	II	II
Cecil fine sandy loam, 10 to 15 percent slopes (Pacolet)	III	II	II
Cecil fine sandy loam, 10 to 15 percent slopes, eroded (Pacolet)	III	II	II
Cecil fine sandy loam, 14 to 25 percent slopes (Pacolet)	IV	II	II
Cecil fine sandy loam, 14 to 25 percent slopes, eroded (Pacolet)	IV	II	II
Cecil fine sandy loam, 25 to 40 percent slopes (Pacolet)	IV	II	III
Cecil fine sandy loam, 25 to 40 percent slopes, eroded (Pacolet)	IV	II	III
Cecil fine sandy loam, eroded gently sloping phase	II	II	II
Cecil fine sandy loam, eroded sloping phase	II	II	II
Cecil fine sandy loam, eroded strongly sloping phase	III	II	II
Cecil fine sandy loam, gently sloping phase	II	II	I
Cecil fine sandy loam, moderately steep phase	III	II	II
Cecil fine sandy loam, sloping phase	III	II	II
Cecil fine sandy loam, strongly sloping phase	III	II	II
Cecil gravelly fine sandy loam, 2 to 6 percent slopes	II	II	I
Cecil gravelly fine sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Cecil gravelly fine sandy loam, 2 to 7 percent slopes	II	II	I
Cecil gravelly fine sandy loam, 2 to 7 percent slopes, eroded	III	II	II
Cecil gravelly fine sandy loam, 6 to 10 percent slopes	III	II	II
Cecil gravelly fine sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Cecil gravelly fine sandy loam, 7 to 10 percent slopes	III	II	II
Cecil gravelly fine sandy loam, 7 to 10 percent slopes, eroded (Pacolet)	III	II	II
Cecil gravelly fine sandy loam, 10 to 14 percent slopes (Pacolet)	III	II	II
Cecil gravelly fine sandy loam, 10 to 14 percent slopes, eroded (Pacolet)	III	II	II
Cecil gravelly fine sandy loam, 10 to 15 percent slopes	III	II	II
Cecil gravelly fine sandy loam, 10 to 15 percent, eroded (Pacolet)	III	II	II
Cecil gravelly fine sandy loam, ALL OTHER	IV	II	II
Cecil gravelly sandy clay loam, 2 to 8 percent slopes, eroded	III	II	II
Cecil gravelly sandy clay loam, 8 to 15 percent slopes, eroded	IV	II	II
Cecil gravelly sandy loam, 2 to 6 percent slopes	II	II	I
Cecil gravelly sandy loam, 2 to 6 percent slopes, eroded	II	II	I
Cecil gravelly sandy loam, 6 to 10 percent slopes	III	II	II
Cecil gravelly sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Cecil gravelly sandy loam, 10 to 15 percent slopes	IV	II	IV
Cecil loam, 2 to 6 percent slopes	II	II	I
Cecil loam, ALL OTHER	III	II	II
Cecil sandy clay loam, 8 to 15 percent slopes, eroded	IV	II	II
Cecil sandy clay loam, 8 to 15 percent slopes, moderately eroded	IV	II	II
Cecil sandy clay loam, ALL OTHER	III	II	II
Cecil sandy loam, 2 to 6 percent slopes	II	II	I
Cecil sandy loam, 2 to 6 percent slopes, eroded	III	II	II
Cecil sandy loam, 2 to 8 percent slopes	II	II	I
Cecil sandy loam, 2 to 8 percent slopes, eroded	III	II	II
Cecil sandy loam, 6 to 10 percent slopes	III	II	I
Cecil sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Cecil sandy loam, 8 to 15 percent slopes	III	II	II
Cecil sandy loam, 8 to 15 percent slopes, eroded	IV	II	II
Cecil sandy loam, 10 to 15 percent slopes	III	II	II
Cecil sandy loam, 10 to 15 percent slopes, eroded	III	II	II

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Map Unit Name	Agri	For	Hort
Cecil sandy loam, 10 to 15 percent slopes, eroded (Pacolet)	III	II	II
Cecil sandy loam, 15 to 45 percent slopes (Pacolet)	IV	II	II
Cecil sandy loam, eroded gently sloping phase	III	II	II
Cecil sandy loam, eroded sloping phase	III	II	II
Cecil sandy loam, gently sloping phase	II	II	I
Cecil sandy loam, sloping phase	III	II	I
Cecil soils, (Pacolet), ALL	IV	II	II
Cecil stony fine sandy loam, (Uwharrie), ALL	IV	II	II
Cecil-Urban land complex, ALL	IV	II	IV
Chastain silty clay loam	IV	III	III
Chenneby silt loam, 0 to 2 percent slopes, frequently flooded	III	III	III
Chewacla and Chastain soils, 0 to 2 percent slopes, frequently flooded	IV	III	III
Chewacla and Wehadkee, ALL	IV	III	III
Chewacla silt loam, frequently flooded	III	III	III
Chewacla, ALL OTHER	II	III	III
Cid, ALL	III	II	II
Cid-Lignum complex, 1 to 6 percent slopes	II	II	II
Cid-Misenheimer complex, 0 to 4 percent slopes	III	II	II
Cid-Urban land complex, 1 to 5 percent slopes	IV	II	IV
Meadowfield-Fairview complex, 15 to 25 percent slopes	IV	IV	IV
Meadowfield-Rhodhiss complex, 25 to 60 percent slopes, very stony	IV	IV	IV
Meadowfield-Woolwine complex, 8 to 15 percent slopes	IV	IV	IV
Claycreek fine sandy loam, 0 to 2 percent slopes	III	I	II
Colfax sandy loam, ALL	III	II	II
Colvard sandy loam, 0 to 3 percent slopes, occasionally flooded	I	III	III
Colfax silt loam	III	II	II
Congaree, frequently flooded	II	III	III
Congaree, ALL OTHER	I	III	III
Coronaca clay loam, ALL	II	II	I
Coronaca-Urban land complex, 2 to 10 percent slopes	IV	II	IV
Creedmoor coarse sandy loam, ALL	III	I	II
Creedmoor fine sandy loam, 8 to 15 percent slopes	IV	I	II
Creedmoor fine sandy loam, ALL OTHER	III	I	II
Creedmoor loam, 2 to 8 percent slopes	III	I	II
Creedmoor sandy loam, 10 to 15 percent slopes	IV	I	II
Creedmoor sandy loam, 10 to 20 percent slopes	IV	I	II
Creedmoor sandy loam, ALL OTHER	III	I	II
Creedmoor silt loam, ALL	III	I	II
Cullen clay loam, ALL	II	II	II
Cullen-Wynott complex, 15 to 35 percent slopes	IV	II	III
Cut and fill land	IV	VI	IV
Davidson clay, severely eroded strongly sloping phase	III	I	II
Davidson sandy clay loam, 15 to 25 percent slopes	III	I	I
Davidson, ALL OTHER	II	I	I
Dillard fine sandy loam, 2 to 8 percent slopes, rarely flooded	I	III	I
Dogue, ALL	II	I	I
Dogue-Roanoke complex, 0 to 6 percent slopes, rarely flooded	II	I	III
Durham coarse sandy loam, gently sloping phase	II	I	I
Durham coarse sandy loam, sloping phase	III	I	I
Durham loamy sand, 6 to 10 percent slopes, eroded	III	I	I
Durham loamy sand, ALL OTHER	II	I	I
Durham sandy loam, eroded sloping phase	II	I	I

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Map Unit Name	Agri	For	Hort
Durham sandy loam, ALL OTHER	III	I	I
Efland silt loam, eroded gently sloping phase (Badin)	II	II	II
Efland silt loam, eroded sloping phase (Badin)	III	II	II
Efland silt loam, gently sloping phase (Badin)	II	II	II
Efland silt loam, sloping phase (Badin)	II	II	II
Efland silt loam, strongly sloping phase (Badin)	III	II	II
Efland silty clay loam severely eroded strongly sloping phase (Badin)	III	II	II
Efland silty clay loam, severely eroded sloping phase (Badin)	III	II	II
Enon clay loam, 2 to 6 percent slopes, eroded	III	II	II
Enon clay loam, 6 to 10 percent slopes, eroded	III	II	II
Enon clay loam, 10 to 15 percent slopes, eroded	IV	II	II
Enon clay loam, severely eroded sloping phase	III	II	II
Enon clay loam, severely eroded strongly sloping phase	IV	II	II
Enon cobbly loam, 2 to 8 percent slopes	II	II	II
Enon cobbly loam, 8 to 15 percent slopes	III	II	II
Enon complex, gullied	IV	II	IV
Enon fine sandy loam, 2 to 15 percent slopes, very stony	IV	II	II
Enon fine sandy loam, 2 to 6 percent slopes	II	II	II
Enon fine sandy loam, 2 to 6 percent slopes, eroded	III	II	II
Enon fine sandy loam, 2 to 8 percent slopes	II	II	II
Enon fine sandy loam, 6 to 10 percent slopes	III	II	II
Enon fine sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Enon fine sandy loam, 8 to 15 percent slopes	III	II	II
Enon fine sandy loam, 10 to 15 percent slopes	III	II	II
Enon fine sandy loam, 10 to 15 percent slopes, eroded	III	II	II
Enon fine sandy loam, eroded gently sloping phase	II	II	II
Enon fine sandy loam, eroded sloping phase	III	II	II
Enon fine sandy loam, gently sloping phase	II	II	II
Enon fine sandy loam, sloping phase	III	II	II
Enon gravelly loam, 2 to 8 percent slopes	II	II	II
Enon gravelly loam, 8 to 15 percent slopes	III	II	II
Enon loam, 2 to 6 percent slopes	II	II	II
Enon loam, 6 to 10 percent slopes	II	II	II
Enon loam, 6 to 12 percent slopes	III	II	II
Enon loam, eroded gently sloping phase	II	II	II
Enon loam, eroded sloping phase	III	II	II
Enon loam, eroded strongly sloping phase	III	II	II
Enon loam, gently sloping phase	II	II	II
Enon loam, sloping phase	III	II	II
Enon loam, strongly sloping phase	III	II	II
Enon sandy loam, 2 to 8 percent slopes	II	II	II
Enon sandy loam, 8 to 15 percent slopes	III	II	II
Enon very cobbly loam, very stony, ALL	IV	II	IV
Enon very stony loam, ALL	IV	II	IV
Enon-Mayodan complex, 15 to 35 percent slopes, very stony	IV	II	III
Enon-Urban land complex, ALL	IV	II	IV
Enon-Wynott complex, 2 to 8 percent slopes	II	II	II
Enon-Wynott complex, 4 to 15 percent slopes, very bouldery	IV	II	IV
Fairview sandy clay loam, 2 to 8 percent slopes, moderately eroded	II	II	II
Fairview sandy clay loam, 8 to 15 percent slopes, moderately eroded	III	II	II
Fairview sandy clay loam, 15 to 25 percent slopes, moderately eroded	IV	II	II
Fairview-Urban land complex, ALL	IV	II	IV

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Map Unit Name	Agri	For	Hort
Fluvaquents-Udifluvents complex, 0 to 3 percent slopes, mounded, occasionally flooded	IV	VI	IV
Gaston clay loam, 2 to 8 percent slopes, eroded	II	II	II
Gaston clay loam, 8 to 15 percent slopes, eroded	III	II	II
Gaston loam, 15 to 25 percent slopes	III	II	II
Gaston sandy clay loam, 2 to 8 percent slopes, eroded	II	II	II
Gaston sandy clay loam, 8 to 15 percent slopes, eroded	III	II	II
Georgeville clay loam, 2 to 6 percent slopes, eroded	II	I	II
Georgeville clay loam, 2 to 8 percent slopes, eroded	II	I	II
Georgeville clay loam, 8 to 15 percent slopes, eroded	III	I	II
Georgeville gravelly loam, 2 to 6 percent slopes	II	I	I
Georgeville gravelly loam, 2 to 8 percent slopes, stony	III	I	II
Georgeville gravelly loam, 6 to 10 percent slopes	II	I	I
Georgeville gravelly loam, 10 to 25 percent slopes	IV	I	II
Georgeville gravelly silt loam, 2 to 8 percent slopes	II	I	I
Georgeville gravelly silt loam, 8 to 15 percent slopes	III	I	II
Georgeville loam, 2 to 6 percent slopes	II	I	I
Georgeville loam, 2 to 8 percent slopes	II	I	I
Georgeville loam, 6 to 10 percent slopes	II	I	I
Georgeville loam, 8 to 15 percent slopes	III	I	I
Georgeville loam, ALL OTHER	IV	I	II
Georgeville silt loam, 2 to 6 percent slopes	II	I	I
Georgeville silt loam, 2 to 6 percent slopes, eroded	III	I	II
Georgeville silt loam, 2 to 8 percent slopes	II	I	I
Georgeville silt loam, 2 to 10 percent slopes, eroded	III	I	II
Georgeville silt loam, 4 to 15 percent slopes, extremely stony	IV	I	IV
Georgeville silt loam, 6 to 10 percent slopes	II	I	I
Georgeville silt loam, 6 to 10 percent slopes, eroded	III	I	II
Georgeville silt loam, 8 to 15 percent slopes	III	I	I
Georgeville silt loam, 10 to 15 percent slopes	III	I	I
Georgeville silt loam, 10 to 15 percent slopes, eroded	III	I	II
Georgeville silt loam, 10 to 25 percent slopes	IV	I	II
Georgeville silt loam, 15 to 45 percent slopes, extremely bouldery	IV	I	IV
Georgeville silt loam, eroded gently sloping phase	II	I	II
Georgeville silt loam, eroded sloping phase	III	I	II
Georgeville silt loam, eroded strongly sloping phase	III	I	II
Georgeville silt loam, gently sloping phase	II	I	I
Georgeville silt loam, moderately steep phase	III	I	II
Georgeville silt loam, sloping phase	II	I	I
Georgeville silt loam, strongly sloping phase	III	I	I
Georgeville silty clay loam, 2 to 6 percent slopes, moderately eroded	II	I	II
Georgeville silty clay loam, 2 to 8 percent slopes	II	I	II
Georgeville silty clay loam, 2 to 8 percent slopes, eroded	II	I	II
Georgeville silty clay loam, 2 to 8 percent slopes, moderately eroded	II	I	II
Georgeville silty clay loam, 6 to 10 percent slopes, moderately eroded	III	I	II
Georgeville silty clay loam, 8 to 15 percent slopes, eroded	IV	I	II
Georgeville silty clay loam, 8 to 15 percent slopes, moderately eroded	IV	I	II
Georgeville silty clay loam, severely eroded gently sloping phase	III	I	II
Georgeville silty clay loam, severely eroded moderately steep phase	IV	I	III
Georgeville silty clay loam, severely eroded sloping phase	III	I	III
Georgeville silty clay loam, severely eroded strongly sloping phase	IV	I	III
Georgeville-Badin complex, ALL	IV	I	II
Georgeville-Montonia complex, very stony ALL	IV	I	III

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Map Unit Name	Agri	For	Hort
Georgeville-Urban land complex, ALL	IV	I	IV
Goldston, ALL	IV	II	III
Goldston-Badin complex, ALL	IV	II	III
Granville gravelly sandy loam, 2 to 8 percent slopes	II	II	I
Granville sandy loam, 2 to 6 percent slopes	II	II	I
Granville sandy loam, 2 to 6 percent slopes, eroded	II	II	I
Granville sandy loam, 2 to 8 percent slopes	II	II	I
Granville sandy loam, 6 to 10 percent slopes	III	II	I
Granville sandy loam, 6 to 10 percent slopes, eroded	III	II	I
Granville sandy loam, 10 to 15 percent slopes	IV	II	I
Grover, ALL	IV	II	III
Gullied land, ALL	IV	VI	IV
Halewood stony sandy loam, (Edneyville), ALL	IV	III	II
Hatboro sandy loam, 0 to 2 percent slopes, frequently flooded	IV	III	IV
Hayesville and Cecil clay loams, 7 to 14 percent slopes, severely eroded (Cecil and Cecil)	II	II	II
Hayesville and Cecil clay loams, 7 to 14 percent slopes, severely eroded (Cecil and Cecil)	III	II	II
Hayesville and Cecil clay loams, 14 to 25 percent slopes, severely eroded (Pacolet and Pacolet)	IV	II	II
Hayesville and Cecil fine sandy loam, eroded, ALL	IV	II	II
Helena clay loam, severely eroded sloping phase	IV	II	II
Helena coarse sandy loam, sloping phase	IV	II	II
Helena coarse sandy loam, ALL OTHER	III	II	II
Helena fine sandy loam, 2 to 8 percent slopes	III	II	II
Helena sandy loam, 10 to 15 percent slopes	IV	II	II
Helena sandy loam, ALL OTHER	III	II	II
Helena-Sedgefield sandy loams, ALL	III	II	II
Helena-Urban land complex, ALL	IV	II	IV
Helena-Worsham complex, 1 to 6 percent slopes	IV	II	III
Herndon loam, 2 to 6 percent slopes	II	II	I
Herndon loam, 6 to 10 percent slopes	II	II	I
Herndon silt loam, 2 to 6 percent slopes	II	II	I
Herndon silt loam, 2 to 6 percent slopes, eroded	II	II	II
Herndon silt loam, 2 to 8 percent slopes	II	II	I
Herndon silt loam, 6 to 10 percent slopes	III	II	I
Herndon silt loam, 6 to 10 percent slopes, eroded	III	II	II
Herndon silt loam, 8 to 15 percent slopes	III	II	I
Herndon silt loam, 10 to 15 percent slopes, eroded	III	II	II
Herndon silt loam, 15 to 25 percent slopes	III	II	I
Herndon silt loam, eroded gently sloping phase	II	II	II
Herndon silt loam, eroded sloping phase	III	II	II
Herndon silt loam, eroded strongly sloping phase	III	II	II
Herndon silt loam, gently sloping phase	II	II	I
Herndon silt loam, moderately steep phase	III	II	I
Herndon silt loam, sloping phase	II	II	I
Herndon silt loam, strongly sloping phase	III	II	I
Herndon silty clay loam, ALL	IV	II	II
Herndon stony silt loam, 2 to 10 percent slopes	III	II	II
Hibriten very cobbly sandy loam, ALL	IV	V	III
Hiwassee clay loam, 8 to 15 percent slopes, eroded	III	II	II
Hiwassee clay loam, 8 to 15 percent slopes, moderately eroded	III	II	II
Hiwassee clay loam, 10 to 15 percent slopes, eroded	III	II	II

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Map Unit Name	Agri	For	Hort
Hiwassee clay loam, 15 to 30 percent slopes, moderately eroded	IV	II	II
Hiwassee clay loam, ALL OTHER	II	II	II
Hiwassee gravelly loam, 2 to 8 percent slopes	II	II	I
Hiwassee gravelly loam, 8 to 15 percent slopes	II	II	II
Hiwassee loam, 2 to 6 percent slopes	II	II	I
Hiwassee loam, 2 to 6 percent slopes, eroded	II	II	II
Hiwassee loam, 2 to 7 percent slopes, eroded	II	II	II
Hiwassee loam, 2 to 8 percent slopes	II	II	I
Hiwassee loam, 6 to 10 percent slopes	II	II	I
Hiwassee loam, 6 to 10 percent slopes, eroded	II	II	II
Hiwassee loam, 8 to 15 percent slopes	II	II	I
Hiwassee loam, 10 to 15 percent slopes	II	II	I
Hiwassee loam, 10 to 15 percent slopes, eroded	III	II	II
Hiwassee loam, 15 to 25 percent slopes	IV	II	II
Hornsboro, ALL	I	I	I
Hulett, ALL	IV	II	II
Hulett-Saw complex, 4 to 15 percent slopes, very rocky	IV	II	III
Hulett-Urban Land complex, 2 to 8 percent slopes	IV	II	IV
Iotla sandy loam, 0 to 2 percent slopes, occasionally flooded	II	III	III
Iredell clay loam, 2 to 6 percent slopes	III	II	III
Iredell fine sandy loam, 10 to 14 percent slopes (Wilkes)	IV	II	III
Iredell fine sandy loam, 10 to 14 percent slopes, eroded (Wilkes)	IV	II	III
Iredell fine sandy loam, ALL OTHER	III	II	III
Iredell gravelly loam, 1 to 4 percent slopes	III	II	III
Iredell loam, ALL	III	II	III
Iredell sandy loam, ALL	III	II	III
Iredell very stony loam, gently sloping phase (Enon)	IV	II	IV
Iredell-Urban land complex, ALL	IV	II	IV
Iredell-Urban land-Picture complex, 0 to 10 percent slopes	IV	II	IV
Kirksey silt loam, ALL	II	II	II
Kirksey-Cid complex, 2 to 6 percent slopes	III	II	II
Leaksville silt loam, 0 to 4 percent slopes	III	III	III
Leaksville-Urban land complex, 0 to 4 percent slopes	IV	III	IV
Leveled clayey land	IV	VI	IV
Lignum gravelly silt loam, 2 to 8 percent slopes	II	III	II
Lignum loam, 2 to 6 percent slopes	II	III	II
Lignum silt loam, 7 to 12 percent slopes	III	III	II
Lignum silt loam, ALL OTHER	II	III	II
Lloyd clay loam, 2 to 6 percent slopes, severely eroded (Gaston)	II	II	II
Lloyd clay loam, 2 to 10 percent slopes, severely eroded (Pacolet)	II	II	II
Lloyd clay loam, 6 to 10 percent slopes, severely eroded (Gaston)	II	II	II
Lloyd clay loam, 10 to 14 percent slopes, severely eroded (Pacolet)	III	II	III
Lloyd clay loam, 10 to 15 percent slopes, severely eroded (Gaston)	III	II	III
Lloyd clay loam, 14 to 25 percent slopes, severely eroded (Pacolet)	IV	II	IV
Lloyd clay loam, 15 to 25 percent slopes, severely eroded (Gaston)	IV	II	IV
Lloyd clay loam, severely eroded gently sloping phase (Gaston)	II	II	II
Lloyd clay loam, severely eroded sloping phase (Gaston)	II	II	II
Lloyd clay loam, severely eroded strongly sloping phase (Gaston)	III	II	III
Lloyd clay loam, severely eroded, moderately steep phase (Cecil)	IV	II	III
Lloyd fine sandy loam, 2 to 6 percent slopes (Cecil)	II	II	II
Lloyd fine sandy loam, 2 to 6 percent slopes, eroded (Cecil)	II	II	II
Lloyd fine sandy loam, 6 to 10 percent slopes (Cecil)	III	II	II

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Map Unit Name	Agri	For	Hort
Lloyd fine sandy loam, 6 to 10 percent slopes, eroded (Cecil)	III	II	II
Lloyd fine sandy loam, 10 to 15 percent slopes (Pacolet)	II	II	II
Lloyd fine sandy loam, 10 to 15 percent slopes, eroded (Pacolet)	III	II	II
Lloyd fine sandy loam, 15 to 25 percent slopes (Pacolet)	IV	II	II
Lloyd fine sandy loam, 15 to 25 percent slopes, eroded (Pacolet)	IV	II	III
Lloyd loam, 2 to 6 percent slopes (Gaston)	II	II	I
Lloyd loam, 2 to 6 percent slopes, eroded (Davidson)	II	II	II
Lloyd loam, 2 to 6 percent slopes, eroded (Gaston)	II	II	I
Lloyd loam, 2 to 7 percent slopes (Pacolet)	II	II	I
Lloyd loam, 2 to 7 percent slopes, eroded (Pacolet)	II	II	II
Lloyd loam, 6 to 10 percent slopes (Cecil)	III	II	II
Lloyd loam, 6 to 10 percent slopes, eroded (Cecil)	III	II	II
Lloyd loam, 6 to 10 percent slopes, eroded (Davidson)	II	II	II
Lloyd loam, 7 to 10 percent slopes (Pacolet)	III	II	II
Lloyd loam, 7 to 10 percent slopes, eroded (Pacolet)	III	II	II
Lloyd loam, 10 to 14 percent slopes (Pacolet)	IV	II	II
Lloyd loam, 10 to 14 percent slopes, eroded (Pacolet)	IV	II	III
Lloyd loam, 10 to 15 percent slopes (Cecil)	IV	II	II
Lloyd loam, 10 to 15 percent slopes, eroded (Davidson)	II	II	III
Lloyd loam, 10 to 15 percent slopes, eroded (Pacolet)	III	II	III
Lloyd loam, 14 to 25 percent slopes (Pacolet)	IV	II	II
Lloyd loam, 14 to 25 percent slopes, eroded (Pacolet)	IV	II	III
Lloyd loam, 15 to 25 percent slopes (Pacolet)	IV	II	II
Lloyd loam, 15 to 25 percent slopes, eroded (Pacolet)	IV	II	III
Lloyd loam, 25 to 40 percent slopes (Pacolet)	IV	II	IV
Lloyd loam, eroded gently sloping phase (Gaston)	III	II	II
Lloyd loam, eroded sloping phase (Cecil)	III	II	II
Lloyd loam, eroded strongly sloping phase (Cecil)	IV	II	II
Lloyd loam, gently sloping phase (Gaston)	II	II	I
Lloyd loam, level phase (Gaston)	II	II	I
Lloyd loam, moderately steep phase (Cecil)	II	II	II
Lloyd loam, sloping phase (Cecil)	II	II	II
Lloyd loam, strongly sloping phase (Cecil)	IV	II	II
Local alluvial land, ALL	IV	III	III
Louisa fine sandy loam, 25 to 45 percent slopes	IV	II	III
Louisa sandy loam, 25 to 45 percent slopes	IV	II	III
Louisburg and Louisa soils, 25 to 55 percent slopes	IV	II	II
Louisburg and Louisa soils, ALL OTHER	IV	II	III
Louisburg coarse sandy loam, ALL	IV	II	II
Louisburg loamy coarse sand, ALL	IV	II	IV
Louisburg loamy sand, 2 to 6 percent slopes	III	II	II
Louisburg loamy sand, 6 to 10 percent slopes	III	II	II
Louisburg loamy sand, 6 to 15 percent slopes	IV	II	II
Louisburg loamy sand, 10 to 15 percent slopes	IV	II	II
Louisburg loamy sand, 15 to 45 percent slopes	IV	II	III
Louisburg sandy loam, ALL	IV	II	II
Louisburg-Wedowee complex, 15 to 25 percent slopes	IV	II	II
Louisburg-Wedowee complex, ALL OTHER	III	II	II
Made land	IV	VI	IV
Madison clay loam, 2 to 6 percent slopes, eroded	III	II	II
Madison clay loam, 6 to 10 percent slopes, eroded	III	II	II
Madison clay loam, eroded, ALL OTHER	IV	II	II

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Map Unit Name	Agri	For	Hort
Madison complex, gullied	IV	II	IV
Madison fine sandy loam, 2 to 6 percent slopes	II	II	II
Madison fine sandy loam, 2 to 7 percent slopes	II	II	II
Madison fine sandy loam, 2 to 7 percent slopes, eroded	II	II	II
Madison fine sandy loam, 6 to 10 percent slopes	III	II	II
Madison fine sandy loam, 7 to 10 percent slopes	III	II	II
Madison fine sandy loam, 7 to 10 percent slopes, eroded	III	II	II
Madison fine sandy loam, 10 to 14 percent slopes	III	II	II
Madison fine sandy loam, 10 to 14 percent slopes, eroded	IV	II	II
Madison fine sandy loam, 10 to 15 percent slopes	III	II	II
Madison fine sandy loam, 14 to 25 percent slopes	IV	II	II
Madison fine sandy loam, 15 to 45 percent slopes	IV	II	II
Madison gravelly fine sandy loam, 2 to 6 percent slopes	II	II	II
Madison gravelly fine sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Madison gravelly fine sandy loam, 6 to 10 percent slopes	III	II	II
Madison gravelly fine sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Madison gravelly fine sandy loam, 7 to 10 percent slopes	III	II	II
Madison gravelly fine sandy loam, 10 to 14 percent slopes	III	II	II
Madison gravelly fine sandy loam, 10 to 15 percent slopes	III	II	II
Madison gravelly fine sandy loam, ALL OTHER	IV	II	II
Madison gravelly sandy clay loam, 2 to 8 percent slopes, moderately eroded	III	II	II
Madison gravelly sandy clay loam, 8 to 15 percent slopes, moderately eroded	IV	II	II
Madison gravelly sandy loam, 10 to 25 percent slopes, eroded	IV	II	II
Madison gravelly sandy loam, ALL OTHER	III	II	II
Madison sandy clay loam, 2 to 8 percent slopes, eroded	III	II	II
Madison sandy clay loam, 8 to 15 percent slopes, eroded	IV	II	II
Madison sandy clay loam, 15 to 25 percent slopes, eroded	IV	II	II
Madison sandy loam, 2 to 6 percent slopes	II	II	II
Madison sandy loam, 2 to 6 percent slopes, eroded	II	II	II
Madison sandy loam, 6 to 10 percent slopes	II	II	II
Madison sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Madison sandy loam, 8 to 15 percent slopes	III	II	II
Madison sandy loam, 10 to 15 percent slopes	III	II	II
Madison sandy loam, ALL OTHER	IV	II	II
Madison-Bethlehem complex, 2 to 8 percent slopes, stony, moderately eroded	III	II	II
Madison-Bethlehem complex, 8 to 15 percent slopes, very stony, moderately eroded	IV	II	III
Madison-Bethlehem-Urban Land complex, 2 to 8 percent slopes	IV	II	IV
Madison-Udorthents complex, 2 to 15 percent slopes, gullied	IV	II	IV
Madison-Urban land complex, 2 to 10 percent slopes	IV	II	IV
Mantachie soils	III	III	II
Masada fine sandy loam, ALL	I	II	I
Masada gravelly sandy clay loam, eroded, ALL	II	II	I
Masada loam, 2 to 8 percent slopes	I	II	I
Masada loam, 8 to 15 percent slopes	II	II	I
Masada sandy clay loam, eroded ALL	II	II	I
Masada sandy loam, 2 to 8 percent slopes	I	II	I
Masada sandy loam, 8 to 15 percent slopes	II	II	I
Masada sandy loam, 15 to 25 percent slopes	IV	II	II
Masada-Urban land complex, 2 to 15 percent slopes	IV	II	IV
Mayodan fine sandy loam, 2 to 6 percent slopes	II	I	I
Mayodan fine sandy loam, 2 to 6 percent slopes, eroded	II	I	I
Mayodan fine sandy loam, 2 to 7 percent slopes	II	I	I

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Map Unit Name	Agri	For	Hort
Mayodan fine sandy loam, 2 to 8 percent slopes	II	I	I
Mayodan fine sandy loam, 6 to 10 percent slopes	III	I	I
Mayodan fine sandy loam, 7 to 10 percent slopes	III	I	I
Mayodan fine sandy loam, 7 to 10 percent slopes, eroded	III	I	I
Mayodan fine sandy loam, 8 to 15 percent slopes	III	I	I
Mayodan fine sandy loam, 10 to 14 percent slopes	III	I	I
Mayodan fine sandy loam, 10 to 14 percent slopes, eroded	III	I	II
Mayodan fine sandy loam, ALL OTHER	IV	I	II
Mayodan gravelly sandy loam, 2 to 6 percent slopes	II	I	I
Mayodan gravelly sandy loam, 2 to 6 percent slopes, eroded	II	I	I
Mayodan gravelly sandy loam, 2 to 8 percent slopes	II	I	I
Mayodan gravelly sandy loam, 6 to 10 percent slopes	III	I	I
Mayodan gravelly sandy loam, 6 to 10 percent slopes, eroded	IV	I	I
Mayodan gravelly sandy loam, 8 to 15 percent slopes	III	I	II
Mayodan gravelly sandy loam, 10 to 15 percent slopes	III	I	II
Mayodan gravelly sandy loam, 15 to 25 percent slopes	IV	I	II
Mayodan sandy clay loam, 2 to 8 percent slopes, eroded	II	I	II
Mayodan sandy clay loam, 8 to 15 percent slopes, eroded	III	I	II
Mayodan sandy clay loam, 15 to 25 percent slopes, eroded	IV	I	II
Mayodan sandy loam, 2 to 6 percent slopes	II	I	I
Mayodan sandy loam, 2 to 6 percent slopes, eroded	II	I	I
Mayodan sandy loam, 2 to 8 percent slopes	II	I	I
Mayodan sandy loam, 6 to 10 percent slopes	III	I	I
Mayodan sandy loam, 6 to 10 percent slopes, eroded	III	I	I
Mayodan sandy loam, 8 to 15 percent slopes	III	I	II
Mayodan sandy loam, 10 to 15 percent slopes	III	I	II
Mayodan sandy loam, 10 to 15 percent slopes, eroded	IV	I	II
Mayodan sandy loam, 15 to 25 percent slopes	IV	I	II
Mayodan sandy loam, 15 to 25 percent slopes, stony	IV	I	IV
Mayodan silt loam, 2 to 8 percent slopes	II	I	I
Mayodan silt loam, 8 to 15 percent slopes	III	I	II
Mayodan silt loam, 15 to 25 percent slopes	IV	I	II
Mayodan silt loam, 25 to 45 percent slopes	IV	I	III
Mayodan silt loam, thin, ALL	III	I	II
Mayodan silty clay loam, 2 to 8 percent slopes, eroded	III	I	II
Mayodan silty clay loam, 8 to 15 percent slopes, eroded	IV	I	II
Mayodan-Brickhaven complex, 15 to 30 percent slopes	IV	I	III
Mayodan-Exway complex, eroded, ALL	III	I	II
Mayodan-Pinkston complex, 25 to 45 percent slopes	IV	I	III
Mayodan-Urban land complex, ALL	IV	I	IV
McQueen loam, 1 to 6 percent slopes	II	II	II
Mecklenburg clay loam, 2 to 8 percent slopes, eroded	II	II	II
Mecklenburg clay loam, 2 to 8 percent slopes, moderately eroded	II	II	II
Mecklenburg clay loam, 6 to 15 percent slopes, severely eroded	IV	II	II
Mecklenburg clay loam, 8 to 15 percent slopes, eroded	III	II	II
Mecklenburg clay loam, 8 to 15 percent slopes, moderately eroded	III	II	II
Mecklenburg clay loam, severely eroded sloping phase	IV	II	II
Mecklenburg fine sandy loam, 2 to 6 percent slopes	II	II	I
Mecklenburg fine sandy loam, 2 to 8 percent slopes	II	II	II
Mecklenburg fine sandy loam, 8 to 15 percent slopes	III	II	II
Mecklenburg loam, 2 to 6 percent slopes	II	II	I
Mecklenburg loam, 2 to 6 percent slopes, eroded	II	II	II

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Map Unit Name	Agri	For	Hort
Mecklenburg loam, 2 to 7 percent slopes, eroded	II	II	II
Mecklenburg loam, 2 to 8 percent slopes	II	II	I
Mecklenburg loam, 6 to 10 percent slopes	II	II	II
Mecklenburg loam, 6 to 10 percent slopes, eroded	II	II	II
Mecklenburg loam, 7 to 14 percent slopes, eroded	III	II	II
Mecklenburg loam, 8 to 15 percent slopes	III	II	II
Mecklenburg loam, 10 to 15 percent slopes, eroded	III	II	II
Mecklenburg loam, ALL OTHER	IV	II	II
Mecklenburg loam, dark surface variant, 2 to 6 percent slopes	II	II	I
Mecklenburg loam, dark surface variant, 6 to 10 percent slopes	II	II	II
Mecklenburg loam, dark surface variant, 10 to 15 percent slopes	III	II	II
Mecklenburg loam, eroded gently sloping phase	II	II	II
Mecklenburg loam, eroded sloping phase	II	II	II
Mecklenburg loam, eroded strongly sloping phase	III	II	II
Mecklenburg sandy clay loam, eroded, ALL	III	II	II
Mecklenburg-Urban land complex, ALL	IV	II	IV
Miscellaneous water	IV	VI	IV
Misenheimer channery silt loam, 0 to 4 percent slopes	IV	V	III
Misenheimer-Callison complex, 0 to 3 percent slopes	IV	V	III
Misenheimer-Cid complex, 0 to 3 percent slopes	IV	V	III
Misenheimer-Kirksey complex, 0 to 5 percent slopes	IV	V	III
Mixed alluvial land, ALL	IV	III	III
Mocksville sandy loam, 2 to 8 percent slopes	II	II	II
Mocksville sandy loam, 8 to 15 percent slopes	III	II	II
Mocksville sandy loam, 15 to 45 percent slopes	IV	II	III
Moderately gullied land, ALL	IV	VI	IV
Monacan and Arents soils	I	III	IV
Monacan loam	I	III	III
Montonia very channery silt loam, 25 to 60 percent slopes, very stony	IV	V	IV
Mooshaunee-Hallison complex, 2 to 8 percent slopes	III	II	II
Mooshaunee-Hallison complex, 8 to 15 percent slopes	IV	II	III
Mooshaunee-Hallison complex, 15 to 25 percent slopes	IV	II	IV
Mooshaunee-Hallison complex, ALL OTHER	IV	II	IV
Nanford gravelly fine sandy loam, 8 to 15 percent slopes	III	II	II
Nanford silt loam, 2 to 6 percent slopes	II	II	I
Nanford silt loam, 2 to 8 percent slopes	II	II	I
Nanford silt loam, 8 to 15 percent slopes	III	II	II
Nanford silty clay loam, 2 to 6 percent slopes, moderately eroded	III	II	II
Nanford-Badin complex, 6 to 10 percent slopes	III	II	II
Nanford-Badin complex, 10 to 15 percent slopes	IV	II	II
Nanford-Emporia complex, 2 to 8 percent slopes	II	II	I
Nason gravelly loam, 2 to 6 percent slopes	III	II	I
Nason gravelly loam, 6 to 10 percent slopes	III	II	II
Nason gravelly loam, 10 to 25 percent slopes	IV	II	II
Nason gravelly loam, 25 to 50 percent slopes	IV	II	III
Nason gravelly silt loam, 2 to 8 percent slopes	II	II	I
Nason gravelly silt loam, 8 to 15 percent slopes	III	II	II
Nason loam, 2 to 6 percent slopes	II	II	I
Nason loam, 6 to 10 percent slopes	III	II	I
Nason silt loam, 2 to 6 percent slopes	II	II	I
Nason silt loam, 2 to 8 percent slopes	II	II	I
Nason silt loam, 6 to 12 percent slopes	III	II	I

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Map Unit Name	Agri	For	Hort
Nason silt loam, 8 to 15 percent slopes	III	II	I
Nason silt loam, 10 to 15 percent slopes	III	II	I
Nason silt loam, 15 to 25 percent slopes	IV	II	II
Nason stony silt loam, 10 to 15 percent slopes (Uwharrie)	IV	II	IV
Oakboro silt loam, ALL	III	III	III
Orange gravelly loam, 2 to 7 percent slopes	II	II	II
Orange loam, 0 to 2 percent slopes	II	II	II
Orange silt loam, 0 to 3 percent slopes	II	II	II
Orange silt loam, eroded gently sloping moderately well drained variant	III	II	II
Orange silt loam, eroded gently sloping phase	III	II	II
Orange silt loam, eroded sloping moderately well drained variant	III	II	II
Orange silt loam, gently sloping moderately well drained variant	III	II	II
Orange silt loam, gently sloping phase	II	II	II
Orange silt loam, nearly level phase	II	II	II
Orange silt loam, sloping moderately well drained variant	III	II	II
Pacolet clay loam, 2 to 6 percent slopes, eroded	II	II	II
Pacolet clay loam, 2 to 8 percent slopes, moderately eroded	II	II	II
Pacolet clay loam, 6 to 10 percent slopes, eroded	III	II	II
Pacolet clay loam, 6 to 10 percent slopes, severely eroded	III	II	II
Pacolet clay loam, 8 to 15 percent slopes, moderately eroded	III	II	II
Pacolet clay loam, 10 to 15 percent slopes, eroded	III	II	II
Pacolet clay loam, 15 to 45 percent slopes, eroded	IV	II	II
Pacolet complex, 10 to 25 percent slopes, severely eroded	IV	II	III
Pacolet fine sandy loam, 2 to 6 percent slopes	II	II	I
Pacolet fine sandy loam, 6 to 10 percent slopes	III	II	I
Pacolet fine sandy loam, 8 to 15 percent slopes	III	II	II
Pacolet fine sandy loam, 10 to 15 percent slopes	III	II	II
Pacolet fine sandy loam, ALL OTHER	IV	II	II
Pacolet gravelly fine sandy loam, 2 to 6 percent slopes	II	II	I
Pacolet gravelly fine sandy loam, 6 to 10 percent slopes	III	II	II
Pacolet gravelly fine sandy loam, 8 to 15 percent slopes	III	II	II
Pacolet gravelly fine sandy loam, 15 to 25 percent slopes	IV	II	II
Pacolet gravelly sandy clay loam, 15 to 30 percent slopes, eroded	IV	II	II
Pacolet gravelly sandy loam, 2 to 8 percent slopes	II	II	I
Pacolet gravelly sandy loam, 8 to 15 percent slopes	III	II	II
Pacolet gravelly sandy loam, ALL OTHER	IV	II	II
Pacolet loam, 10 to 15 percent slopes	III	II	II
Pacolet loam, 15 to 25 percent slopes	IV	II	II
Pacolet sandy clay loam, 2 to 6 percent slopes, eroded	II	II	II
Pacolet sandy clay loam, 2 to 6 percent slopes, moderately eroded	II	II	II
Pacolet sandy clay loam, 2 to 8 percent slopes, eroded	II	II	II
Pacolet sandy clay loam, 6 to 10 percent slopes, moderately eroded	III	II	II
Pacolet sandy clay loam, 8 to 15 percent slopes, eroded	III	II	II
Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	III	II	II
Pacolet sandy clay loam, 10 to 15 percent slopes, moderately eroded	III	II	II
Pacolet sandy clay loam, ALL OTHER	IV	II	II
Pacolet sandy loam, 2 to 6 percent slopes	II	II	I
Pacolet sandy loam, 2 to 8 percent slopes	II	II	I
Pacolet sandy loam, 6 to 10 percent slopes	III	II	II
Pacolet sandy loam, 8 to 15 percent slopes	III	II	II
Pacolet sandy loam, 10 to 15 percent slopes	III	II	II
Pacolet sandy loam, ALL OTHER	IV	II	II

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Map Unit Name	Agri	For	Hort
Pacolet soils, 10 to 25 percent slopes	IV	II	III
Pacolet-Bethlehem complex, 2 to 8 percent slopes, eroded	III	II	II
Pacolet-Bethlehem complex, 2 to 8 percent slopes, moderately eroded	III	II	II
Pacolet-Bethlehem complex, ALL OTHER	IV	II	II
Pacolet-Bethlehem complex, 15 to 25 percent slopes, stony	IV	II	III
Pacolet-Bethlehem-Urban Land complex, ALL	IV	II	IV
Pacolet-Madison-Urban land complex, ALL	IV	II	IV
Pacolet-Saw complex, 2 to 8 percent slopes, eroded	III	II	II
Pacolet-Saw complex, 2 to 8 percent slopes, moderately eroded	III	II	II
Pacolet-Saw complex, ALL OTHER	IV	II	II
Pacolet-Udorthents complex, gullied, ALL	IV	II	IV
Pacolet-Urban land complex, ALL	IV	II	IV
Pacolet-Wilkes complex, 8 to 15 percent slopes	III	II	II
Pacolet-Wilkes complex, 15 to 25 percent slopes	IV	II	II
Picture loam, 0 to 3 percent slopes	IV	II	III
Pinkston, ALL	IV	II	III
Pinoka, ALL	IV	II	III
Pinoka-Carbondon complex, 2 to 8 percent slopes	IV	II	III
Pits, ALL	IV	VI	IV
Poindexter and Zion sandy loams, 2 to 8 percent slopes	III	II	II
Poindexter and Zion sandy loams, 8 to 15 percent slopes	IV	II	II
Poindexter and Zion sandy loams, ALL OTHER	IV	II	III
Poindexter fine sandy loam, 25 to 60 percent slopes	IV	II	III
Poindexter loam, 2 to 8 percent slopes	III	II	II
Poindexter loam, 8 to 15 percent slopes	IV	II	II
Poindexter loam, 15 to 45 percent slopes	IV	II	III
Poindexter-Mocksville complex, 2 to 8 percent slopes	IV	II	II
Poindexter-Mocksville complex, 8 to 15 percent slopes	IV	II	II
Poindexter-Mocksville complex, ALL OTHER	IV	II	III
Poindexter-Zion-Urban land complex, 2 to 15 percent slopes	IV	II	IV
Polkton-White Store complex, 2 to 8 percent slopes, severely eroded	III	II	III
Polkton-White Store complex, ALL OTHER	IV	II	III
Quarry, ALL	IV	VI	IV
Rhodhiss, ALL	IV	II	II
Rhodhiss-Bannertown complex, 25 to 50 percent slopes	IV	II	III
Rion fine sandy loam, 2 to 8 percent slopes	III	II	II
Rion fine sandy loam, 8 to 15 percent slopes	IV	II	II
Rion fine sandy loam, 15 to 25 percent slopes	IV	II	II
Rion fine sandy loam, 25 to 60 percent slopes	IV	II	III
Rion loamy sand, 8 to 15 percent slopes	IV	II	II
Rion loamy sand, 15 to 25 percent slopes	IV	II	III
Rion sandy loam, 2 to 8 percent slopes	III	II	II
Rion sandy loam, 8 to 15 percent slopes	III	II	II
Rion sandy loam, 15 to 25 percent slopes	IV	II	II
Rion sandy loam, 15 to 30 percent slopes	IV	II	II
Rion sandy loam, ALL OTHER	IV	II	III
Rion, Pacolet, and Wateree soils, 25 to 60 percent slopes	IV	II	IV
Rion-Ashlar complex, 15 to 35 percent slopes, stony	IV	II	III
Rion-Ashlar complex, 25 to 60 percent slopes, rocky	IV	II	IV
Rion-Ashlar-Rock outcrop complex, 45 to 70 percent slopes	IV	II	IV
Rion-Cliffside complex, 25 to 60 percent slopes, very stony	IV	II	IV
Rion-Hibriten complex, 25 to 45 percent slopes, very stony	IV	II	IV

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Map Unit Name	Agri	For	Hort
Rion-Urban land complex, 2 to 10 percent slopes	IV	II	IV
Rion-Wateree-Wedowee complex, 8 to 15 percent slopes	IV	II	III
Rion-Wedowee complex, ALL	III	II	II
Rion-Wedowee-Ashlar complex, ALL	IV	II	III
Riverview and Buncombe soils, 0 to 3 percent slopes, frequently flooded	II	III	III
Riverview and Toccoa soils, 0 to 4 percent slopes, occasionally flooded	II	III	III
Riverview, frequently flooded, ALL	II	III	III
Riverview, occasionally flooded, ALL	I	III	III
Roanoke, ALL	II	III	III
Roanoke-Wahee complex, 0 to 3 percent slopes, occasionally flooded	II	III	III
Rock outcrop	IV	VI	IV
Rock outcrop-Ashlar complex, 2 to 15 percent slopes	IV	VI	IV
Rock outcrop-Wake complex, ALL	IV	VI	IV
Sauratown channery fine sandy loam, 25 to 60 percent slopes, very stony	IV	IV	IV
Saw-Pacolet complex, ALL	IV	II	II
Saw-Wake Complex, very rocky, ALL	IV	II	IV
Secrest-Cid complex, 0 to 3 percent slopes	III	II	II
Sedgefield fine sandy loam, 1 to 4 percent slopes	II	II	II
Sedgefield fine sandy loam, 1 to 6 percent slopes	III	II	II
Sedgefield sandy loam, 1 to 6 percent slopes	III	II	II
Sedgefield sandy loam, 2 to 8 percent slopes	III	II	II
Severely gullied land, ALL	IV	VI	IV
Shellbluff loam, 0 to 2 percent slopes, occasionally flooded	II	III	III
Shellbluff silt loam, 0 to 2 percent slopes, frequently flooded	IV	III	III
Skyuka clay loam, 2 to 8 percent slopes, eroded	II	I	II
Skyuka loam, 2 to 8 percent slopes	I	I	II
Spray loam, 0 to 5 percent slopes	IV	II	III
Spray-Urban land complex, 0 to 5 percent slopes	IV	II	IV
Starr loam, ALL	II	I	III
State, ALL	I	I	I
Stoneville loam, 2 to 8 percent slopes	II	II	I
Stoneville loam, 8 to 15 percent slopes	III	II	I
Stoneville loam, 15 to 25 percent slopes	IV	II	II
Stoneville-Urban land complex, 2 to 10 percent slopes	IV	II	IV
Stony land	IV	VI	IV
Swamp	IV	III	IV
Tallapoosa fine sandy loam, ALL	IV	II	III
Tarrus gravelly silt loam, 2 to 8 percent slopes	II	II	I
Tarrus-Georgeville complex, 8 to 15 percent slopes	II	II	I
Tatum and Nason channery silt loams, 15 to 25 percent slopes	IV	II	II
Tatum channery silt loam, ALL	III	II	I
Tatum channery silty clay loam, ALL	III	II	II
Tatum gravelly loam, 2 to 8 percent slopes	II	II	I
Tatum gravelly loam, 8 to 15 percent slopes	III	II	I
Tatum gravelly loam, ALL OTHER	IV	II	II
Tatum gravelly silt loam, 2 to 8 percent slopes	II	II	I
Tatum gravelly silt loam, 8 to 15 percent slopes	III	II	I
Tatum gravelly silt loam, ALL OTHER	IV	II	II
Tatum gravelly silty clay loam, eroded, ALL	III	II	II
Tatum loam, 2 to 6 percent slopes	II	II	I
Tatum loam, 10 to 15 percent slopes	III	II	II
Tatum loam, ALL OTHER	IV	II	II

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Map Unit Name	Agri	For	Hort
Tatum silt loam, 2 to 8 percent slopes	II	II	I
Tatum silt loam, 8 to 15 percent slopes	III	II	I
Tatum silt loam, ALL OTHER	IV	II	II
Tatum silty clay loam, eroded, ALL	III	II	II
Tatum-Badin complex, 2 to 8 percent slopes	III	II	I
Tatum-Badin complex, 2 to 8 percent slopes, eroded	III	II	II
Tatum-Badin complex, 8 to 15 percent slopes	III	II	II
Tatum-Montonia complex, 15 to 30 percent slopes	IV	II	II
Tatum-Montonia complex, ALL OTHER	III	II	II
Tatum-Urban land complex, 2 to 8 percent slopes	IV	II	IV
Tetotum fine sandy loam, 1 to 4 percent slopes	I	I	I
Tetotum silt loam, 0 to 3 percent slopes	I	I	I
Tirzah silt loam, eroded gently sloping phase (Tatum)	III	II	I
Tirzah silt loam, eroded sloping phase (Tatum)	II	II	I
Tirzah silt loam, eroded strongly sloping phase (Tatum)	III	II	II
Tirzah silt loam, gently sloping phase (Stoneville)	II	II	II
Tirzah silt loam, sloping phase (Stoneville)	III	II	II
Tirzah silt loam, strongly sloping phase (Stoneville)	III	II	II
Tirzah silty clay loam, severely eroded gently sloping phase (Tatum)	III	II	II
Tirzah silty clay loam, severely eroded sloping phase (Tatum)	III	II	II
Tirzah silty clay loam, severely eroded strongly sloping phase (Tatum)	IV	II	II
Toast sandy loam, 2 to 8 percent slopes	II	I	I
Toast sandy loam, 8 to 15 percent slopes	III	I	II
Toccoa, ALL	I	III	III
Turbeville fine sandy loam, 0 to 3 percent slopes	I	II	I
Udorthents, ALL	IV	VI	IV
Udorthents-Pits complex, mounded, 0 to 2 percent slopes, occasionally flooded	IV	VI	IV
Udorthents-Urban land complex, ALL	IV	VI	IV
Urban land, ALL	IV	VI	IV
Urban land-Arents complex, occasionally flooded	IV	III	IV
Urban land-Iredell-Creedmoor complex, 2 to 10 percent slopes	IV	II	IV
Urban land-Masada complex, 2 to 15 percent slopes	IV	II	IV
Uwharrie clay loam, 2 to 8 percent slopes, eroded	III	II	III
Uwharrie clay loam, 8 to 15 percent slopes, eroded	IV	II	III
Uwharrie loam, 15 to 25 percent slopes	IV	II	III
Uwharrie loam, very stony, ALL	IV	II	III
Uwharrie silt loam, 2 to 8 percent slopes	II	II	I
Uwharrie silty clay loam, 2 to 8 percent slopes, eroded	III	II	II
Uwharrie silty clay loam, 2 to 8 percent slopes, moderately eroded	III	II	II
Uwharrie silty clay loam, 8 to 15 percent slopes, eroded	IV	II	II
Uwharrie stony loam, ALL	IV	II	III
Uwharrie stony loam, very bouldery, ALL	IV	II	IV
Uwharrie-Badin complex, ALL	IV	II	III
Uwharrie-Tatum complex, 8 to 15 percent slopes	III	II	III
Uwharrie-Tatum complex, 8 to 15 percent slopes, moderately eroded	IV	II	III
Uwharrie-Urban Land, 2 to 8 percent slopes	IV	II	IV
Vance clay loam, severely eroded sloping phase	IV	II	II
Vance coarse sandy loam, 2 to 8 percent slopes	II	II	II
Vance coarse sandy loam, eroded gently sloping phase	III	II	II
Vance coarse sandy loam, eroded sloping phase	III	II	II
Vance coarse sandy loam, gently sloping phase	II	II	II

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Map Unit Name	Agri	For	Hort
Vance sandy clay loam, ALL	III	II	II
Vance sandy loam, 2 to 6 percent slopes	II	II	II
Vance sandy loam, 2 to 6 percent slopes, eroded	III	II	II
Vance sandy loam, 2 to 8 percent slopes	II	II	II
Vance sandy loam, 6 to 10 percent slopes	III	II	II
Vance sandy loam, 6 to 10 percent slopes, eroded	III	II	II
Vance sandy loam, 8 to 15 percent slopes	III	II	II
Vance sandy loam, 10 to 15 percent slopes	III	II	II
Vance sandy loam, eroded gently sloping phase	III	II	II
Vance sandy loam, eroded moderately sloping phase	III	II	II
Vance sandy loam, eroded strongly sloping phase	IV	II	II
Vance sandy loam, gently sloping phase	II	II	II
Vance-Urban land complex, 2 to 10 percent slopes	IV	II	IV
Wadesboro clay loam, 2 to 8 percent slopes, moderately eroded	II	I	II
Wadesboro clay loam, 8 to 15 percent slopes, moderately eroded	III	I	II
Wadesboro fine sandy loam, 2 to 7 percent slopes (Mayodan)	II	I	II
Wadesboro fine sandy loam, 2 to 7 percent slopes, eroded (Mayodan)	II	I	II
Wadesboro fine sandy loam, 7 to 10 percent slopes (Mayodan)	III	I	II
Wadesboro fine sandy loam, 7 to 10 percent slopes, eroded (Mayodan)	III	I	II
Wadesboro fine sandy loam, 10 to 14 percent slopes (Mayodan)	III	I	II
Wadesboro fine sandy loam, 10 to 14 percent slopes, eroded (Mayodan)	IV	I	II
Wadesboro fine sandy loam, 14 to 30 percent slopes (Mayodan)	IV	I	II
Wahee, ALL	II	III	I
Wake soils, ALL	IV	II	III
Wake-Saw-Wedowee complex, 2 to 8 percent slopes, rocky	IV	II	III
Wake-Wateree complex, 15 to 30 percent slopes, very rocky	IV	II	III
Wake-Wateree-Wedowee complex, 8 to 15 percent slopes, rocky	IV	II	III
Warne and Roanoke fine sandy loams (Dogue)	IV	III	II
Wateree fine sandy loam, ALL	IV	II	II
Wateree-Rion complex, 40 to 95 percent slopes	IV	II	III
Wateree-Rion-Wedowee complex, 15 to 30 percent slopes	IV	II	III
Wedowee coarse sandy loam, 2 to 6 percent slopes	II	I	I
Wedowee coarse sandy loam, 6 to 10 percent slopes	III	I	II
Wedowee loam, 2 to 8 percent slopes	II	I	I
Wedowee loam, 8 to 15 percent slopes	III	I	II
Wedowee loam, 15 to 25 percent slopes	IV	I	II
Wedowee sandy clay loam, 8 to 15 percent slopes, eroded	IV	I	II
Wedowee sandy loam, 2 to 10 percent slopes, extremely bouldery	IV	I	IV
Wedowee sandy loam, 2 to 15 percent slopes, bouldery	IV	I	III
Wedowee sandy loam, 2 to 6 percent slopes	II	I	I
Wedowee sandy loam, 2 to 6 percent slopes, eroded	II	I	II
Wedowee sandy loam, 2 to 8 percent slopes	II	I	I
Wedowee sandy loam, 6 to 10 percent slopes	III	I	II
Wedowee sandy loam, 6 to 10 percent slopes, eroded	III	I	II
Wedowee sandy loam, 6 to 15 percent slopes	III	I	II
Wedowee sandy loam, 8 to 15 percent slopes	III	I	II
Wedowee sandy loam, 10 to 15 percent slopes	III	I	II
Wedowee sandy loam, 10 to 15 percent slopes, eroded	III	I	II
Wedowee sandy loam, 10 to 25 percent slopes	III	I	II
Wedowee sandy loam, 15 to 25 percent slopes	IV	I	II
Wedowee sandy loam, 15 to 35 percent slopes, bouldery	IV	I	III
Wedowee sandy loam, 15 to 40 percent slopes	IV	I	II

MLRA136 – Piedmont

Map Unit Name	Agri	For	Hort
Wedowee-Louisburg complex, 2 to 6 percent slopes	II	I	II
Wedowee-Louisburg complex, ALL OTHER	III	I	III
Wedowee-Urban land-Udorthents complex, 2 to 10 percent slopes	IV	I	IV
Wehadkee and Bibb soils	IV	III	III
Wehadkee, ALL	IV	III	III
White Store clay loam, ALL	IV	II	III
White Store fine sandy loam, moderately eroded, ALL	IV	II	III
White Store loam, 8 to 15 percent slopes	IV	II	III
White Store loam, ALL OTHER	III	II	III
White Store sandy loam, 2 to 6 percent slopes	III	II	III
White Store sandy loam, ALL OTHER	IV	II	III
White Store silt loam, 8 to 15 percent slopes	IV	II	III
White Store silt loam, ALL OTHER	III	II	III
White Store-Polkton complex, ALL	IV	II	III
White Store-Urban land complex, ALL	IV	II	IV
Wickham fine sandy loam, 0 to 3 percent slopes, rarely flooded	I	I	I
Wickham fine sandy loam, 2 to 6 percent slopes	I	I	I
Wickham fine sandy loam, 2 to 6 percent slopes, eroded	II	I	I
Wickham fine sandy loam, 2 to 7 percent slopes, eroded	II	I	I
Wickham fine sandy loam, 2 to 8 percent slopes	II	I	I
Wickham fine sandy loam, 6 to 10 percent slopes	II	I	I
Wickham fine sandy loam, 6 to 10 percent slopes, eroded	III	I	II
Wickham fine sandy loam, 7 to 14 percent slopes, eroded	III	I	II
Wickham fine sandy loam, 10 to 15 percent slopes	III	I	II
Wickham sandy loam, ALL	I	I	I
Wilkes, ALL	IV	II	III
Wilkes-Poindexter-Wynott complex, ALL	IV	II	III
Wilkes-Urban land complex, 8 to 15 percent slopes	IV	II	IV
Winnsboro fine sandy loam, 2 to 8 percent slopes	II	II	I
Winnsboro loam, 2 to 8 percent slopes	III	II	I
Winnsboro loam, 8 to 15 percent slopes	IV	II	II
Winnsboro-Wilkes complex, 2 to 8 percent slopes	III	II	II
Winnsboro-Wilkes complex, ALL OTHER	IV	II	III
Woolwine-Fairview complex, 2 to 8 percent slopes, moderately eroded	III	II	II
Woolwine-Fairview complex, moderately eroded, ALL OTHER	IV	II	II
Woolwine-Fairview-Urban land complex, ALL	IV	II	IV
Worsham, ALL	IV	III	III
Wynott cobbly loam, 2 to 10 percent slopes, extremely stony	IV	II	IV
Wynott loam, 2 to 8 percent slopes	III	II	II
Wynott-Enon complex, 2 to 8 percent slopes	II	II	II
Wynott-Enon complex, 2 to 8 percent slopes, moderately eroded	II	II	II
Wynott-Enon complex, 8 to 15 percent slopes	II	II	II
Wynott-Enon complex, 8 to 15 percent slopes, moderately eroded	III	II	II
Wynott-Enon complex, 15 to 25 percent slopes	IV	II	II
Wynott-Enon complex, extremely bouldery, ALL	IV	II	IV
Wynott-Wilkes-Poindexter complex, 2 to 8 percent slopes	IV	II	II
Wynott-Winnsboro complex, 2 to 8 percent slopes	II	II	II
Wynott-Winnsboro complex, 8 to 15 percent slopes	II	II	II
Wynott-Winnsboro complex, 15 to 25 percent slopes	IV	II	II
Zion gravelly loam, 2 to 8 percent slopes	III	II	II
Zion gravelly loam, 8 to 15 percent slopes	IV	II	II
Zion-Enon complex, 2 to 8 percent slopes	III	II	III

MLRA136 – Piedmont

Map Unit Name	Agri	For	Hort
Zion-Enon complex, 8 to 15 percent slopes	IV	II	II
Zion-Mocksville complex, 25 to 45 percent slopes	IV	II	III
Zion-Wilkes complex, 8 to 15 percent slopes	IV	II	II
Zion-Winnsboro-Mocksville complex, ALL	IV	II	II

MLRA137 – Sandhills

Map Unit Name	Agri	For	Hort
Ailey gravelly loamy sand, 8 to 15 percent slopes	III	V	III
Ailey gravelly loamy sand, 15 to 25 percent slopes	IV	V	IV
Ailey loamy sand, ALL	III	V	III
Ailey sand, moderately wet, 0 to 6 percent slopes	II	V	II
Ailey-Urban land complex, ALL	IV	V	IV
Bibb loam, 0 to 2 percent slopes, frequently flooded	IV	III	IV
Blaney loamy sand, 2 to 8 percent slopes	II	II	II
Blaney loamy sand, 8 to 15 percent slopes	III	II	III
Blaney-Urban land complex, ALL	IV	II	IV
Bragg sandy loam, 1 to 4 percent slopes	IV	V	IV
Candor and Wakulla soils, 8 to 15 percent slopes	IV	V	IV
Candor sand, ALL	IV	V	IV
Candor-Urban land complex, 2 to 12 percent slopes	IV	V	IV
Dothan gravelly loamy sand, 0 to 6 percent slopes	I	II	I
Dothan loamy sand, ALL	I	II	I
Emporia loamy sand, ALL	II	II	II
Faceville sandy clay loam, 2 to 6 percent slopes, eroded	II	II	II
Fuquay, ALL	II	II	II
Fuquay-Urban land complex, 0 to 6 percent slopes	IV	II	IV
Gilead loamy sand, ALL	II	II	II
Johns fine sandy loam, 0 to 2 percent slopes	I	I	I
Johnston, ALL	IV	III	IV
Kalmia sandy loam, wet substratum, 0 to 2 percent slopes	I	II	I
Kenansville loamy sand, 0 to 4 percent slopes	II	I	II
Lakeland, ALL	IV	V	IV
Lakeland-Urban land complex, 1 to 8 percent slopes	IV	V	IV
Lillington gravelly sandy loam, 2 to 8 percent slopes	III	II	III
Lillington gravelly sandy loam, 8 to 15 percent slopes	IV	II	IV
Lillington gravelly sandy loam, 15 to 25 percent slopes	IV	II	IV
Pactolus sand, 0 to 3 percent slopes	IV	II	IV
Paxville fine sandy loam, 0 to 2 percent slopes	I	III	I
Pelion loamy sand, 0 to 2 percent slopes	II	II	II
Pelion loamy sand, 1 to 4 percent slopes	IV	II	IV
Pelion loamy sand, 2 to 8 percent slopes	III	II	III
Pelion loamy sand, 8 to 15 percent slopes	IV	II	IV
Pelion-Urban land complex, ALL	IV	II	IV
Pelion-Urban land complex, 8 to 15 percent slopes	IV	II	IV
Pocalla loamy sand, 0 to 6 percent slopes	II	II	II
Rains fine sandy loam, 0 to 2 percent slopes	III	I	III
Tetotum silt loam, 0 to 3 percent slopes, rarely flooded	I	I	I
Udorthents, ALL	IV	VI	IV
Urban land, ALL	IV	VI	IV
Vaucluse gravelly loamy sand, 2 to 8 percent slopes	III	II	III
Vaucluse gravelly loamy sand, 8 to 15 percent slopes	IV	II	IV
Vaucluse gravelly loamy sand, 15 to 25 percent slopes	IV	II	IV
Vaucluse gravelly sandy loam, ALL	III	II	III
Vaucluse gravelly sandy loam, 8 to 15 percent slopes	III	II	III
Vaucluse gravelly sandy loam, 15 to 25 percent slopes	III	II	III
Vaucluse loamy sand, 2 to 8 percent slopes	II	II	II
Vaucluse loamy sand, 8 to 15 percent slopes	III	II	III
Vaucluse loamy sand, 15 to 25 percent slopes	IV	II	IV
Vaucluse very gravelly loamy sand, ALL	IV	II	IV

MLRA137 – Sandhills

Map Unit Name	Agri	For	Hort
Vaucluse-Gilead loamy sands, 15 to 25 percent slopes	IV	II	IV
Vaucluse-Urban land complex, ALL	IV	II	IV
Wakulla and Candor soils, 0 to 8 percent slopes	IV	V	IV
Wakulla sand, ALL	IV	V	IV
Wakulla-Candor-Urban land complex, 0 to 10 percent slopes	IV	V	IV
Wehadkee fine sandy loam	IV	III	IV
Wehadkee loam, 0 to 2 percent slopes, frequently flooded	IV	III	IV

MLRA153A – Lower Coastal Plain

Map Unit Name	Agri	For	Hort
Alaga, ALL	IV	II	IV
Alpin, ALL	IV	II	IV
Altavista, ALL	I	I	I
Altavista-Urban land complex, 0 to 2 percent slopes	IV	I	IV
Arapahoe fine sandy loam	II	I	II
Augusta, ALL	II	I	II
Autryville fine sand, 1 to 4 percent slopes	IV	II	IV
Autryville, ALL OTHER	III	II	III
Aycock, ALL ERODED	II	I	II
Aycock, ALL OTHER	I	I	I
Ballahack loam, 0 to 2 percent slopes, occasionally flooded	I	I	I
Bayboro, ALL	I	I	I
Baymeade and Marvyn soils, 6 to 12 percent slopes	IV	V	IV
Baymeade fine sand, ALL	IV	V	IV
Baymeade-Urban land complex, 0 to 6 percent slopes	IV	V	IV
Bethera, ALL	II	I	II
Bibb and Johnston loams, frequently flooded	IV	III	IV
Bibb, ALL	IV	III	IV
Bladen, ALL	III	I	III
Blanton, ALL	IV	V	IV
Bohicket, ALL	IV	VI	IV
Bonneau loamy fine sand, 0 to 6 percent slopes	II	II	II
Bonneau loamy sand, 0 to 4 percent slopes	II	II	II
Bonneau loamy sand, 0 to 6 percent slopes	II	II	II
Bonneau loamy sand, 6 to 10 percent slopes	III	II	III
Bonneau loamy sand, 6 to 12 percent slopes	III	II	III
Borrow pits	IV	VI	IV
Bragg, ALL	IV	VI	IV
Brookman loam, frequently flooded	IV	III	IV
Butters loamy fine sand, 0 to 3 percent slopes	III	II	III
Byars loam	II	III	II
Cainhoy, ALL	IV	V	IV
Cape Fear loam, ALL	I	I	I
Caroline fine sandy loam, ALL	II	II	II
Carteret, ALL	IV	VI	IV
Centenary fine sand	IV	II	IV
Chastain and Chenneby soils, frequently flooded	IV	III	IV
Chastain silt loam, frequently flooded	IV	III	IV
Chewacla and Chastain soils, frequently flooded	IV	III	IV
Chewacla loam, frequently flooded	IV	III	IV
Chipleys sand	IV	II	IV
Chowan silt loam	IV	III	IV
Conetoe, ALL	III	II	III
Congaree silt loam, 0 to 4 percent slopes, occasionally flooded	I	III	I
Corolla fine sand	IV	VI	IV
Coxville, ALL	II	I	II
Craven clay loam, 4 to 12 percent slopes, eroded	IV	I	IV
Craven fine sandy loam, 0 to 1 percent slopes	II	I	II
Craven fine sandy loam, 1 to 4 percent slopes	II	I	II
Craven fine sandy loam, 1 to 6 percent slopes, eroded	III	I	III
Craven fine sandy loam, 4 to 8 percent slopes	III	I	III
Craven fine sandy loam, 4 to 8 percent slopes, eroded	IV	I	IV

MLRA153A – Lower Coastal Plain

Map Unit Name	Agri	For	Hort
Craven fine sandy loam, 6 to 10 percent slopes	IV	I	IV
Craven fine sandy loam, 8 to 12 percent slopes, eroded	IV	I	IV
Craven loam, 1 to 4 percent slopes	II	I	II
Craven loam, 1 to 4 percent slopes, eroded	III	I	III
Craven silt loam, 1 to 4 percent slopes	II	I	II
Craven very fine sandy loam, 1 to 4 percent slopes	II	I	II
Craven very fine sandy loam, 4 to 8 percent slopes	IV	I	IV
Craven-Urban land complex, 0 to 2 percent slopes	IV	I	IV
Croatan muck, frequently flooded	III	V	III
Croatan muck, ALL OTHER	II	V	II
Dogue sandy loam, 0 to 2 percent slopes	II	I	II
Dogue sandy loam, 2 to 6 percent slopes	III	I	III
Dogue sandy loam, 6 to 12 percent slopes	IV	I	IV
Dorovan, ALL	IV	V	IV
Duckston fine sand	IV	VI	IV
Echaw, ALL	IV	V	IV
Exum fine sandy loam, 0 to 1 percent slopes	I	II	I
Exum fine sandy loam, 1 to 6 percent slopes	II	II	II
Exum loam, 0 to 2 percent slopes	I	II	I
Exum silt loam, 0 to 2 percent slopes	I	II	I
Exum very fine sandy loam, 0 to 2 percent slopes	I	II	I
Exum very fine sandy loam, 2 to 5 percent slopes	II	II	II
Exum-Urban land complex, 0 to 2 percent slopes	IV	II	IV
Foreston loamy fine sand, ALL	II	II	II
Goldsboro sandy loam, 1 to 6 percent slopes	I	I	I
Goldsboro, ALL OTHER	I	I	I
Goldsboro-Urban land complex, ALL	IV	I	IV
Grantham, ALL	I	I	I
Grifton, ALL	II	I	II
Hobonny muck	IV	VI	IV
Icaria fine sandy loam, ALL	II	I	II
Invershiel-Pender complex, 0 to 2 percent slopes	I	II	I
Johns, ALL	II	I	II
Johnston and Pamlico soils, 0 to 1 percent slopes, frequently flooded	IV	III	IV
Johnston soils	IV	III	IV
Kalmia, ALL	II	II	II
Kenansville, ALL	III	II	III
Kinston loam, frequently flooded	IV	III	IV
Kureb, ALL	IV	V	IV
Lafitte muck	IV	VI	IV
Lakeland sand, 0 to 6 percent slopes	IV	V	IV
Leaf, ALL	III	I	III
Lenoir, ALL	III	I	III
Leon, ALL	IV	V	III
Leon-Urban land complex	IV	V	IV
Liddell silt loam	II	I	II
Lucy loamy sand, 0 to 6 percent slopes	II	II	II
Lumbee, ALL	II	I	II
Lynchburg, ALL	II	I	II
Lynchburg-Urban land complex	IV	I	IV
Lynn Haven sand	IV	II	IV
Mandarin, ALL	IV	V	IV

MLRA153A – Lower Coastal Plain

Map Unit Name	Agri	For	Hort
Mandarin-Urban land complex	IV	V	IV
Marvyn and Craven soils, 6 to 12 percent slopes	IV	I	IV
Marvyn, ALL	IV	I	IV
Masada sandy loam, 0 to 4 percent slopes	I	II	I
Masontown, ALL	IV	III	IV
Masontown mucky fine sandy loam and Muckalee sandy loam, frequently flooded	IV	III	IV
Meggett fine sandy loam, frequently flooded	IV	III	IV
Meggett, ALL OTHER	III	I	III
Mine pits	IV	VI	IV
Muckalee loam, ALL	IV	III	IV
Murville, ALL	IV	V	IV
Nahunta, ALL	I	I	I
Nakina fine sandy loam	I	I	I
Nawney loam, 0 to 2 percent slopes, frequently flooded	IV	III	IV
Newhan, ALL	IV	VI	IV
Newhan-Corolla complex, 0 to 30 percent slopes	IV	VI	IV
Newhan-Corolla-Urban land complex, 0 to 30 percent slopes	IV	VI	IV
Noboco fine sandy loam, 0 to 2 percent slopes	I	I	I
Noboco fine sandy loam, 2 to 6 percent slopes	II	I	II
Norfolk, ALL	II	II	II
Norfolk-Urban land complex, 0 to 6 percent slopes	IV	II	IV
Ocilla loamy fine sand, 0 to 4 percent slopes	IV	II	IV
Olustee loamy sand, sandy subsoil variant (Murville)	IV	II	IV
Onslow, ALL	II	II	II
Osier loamy sand, loamy substratum	IV	I	IV
Pactolus, ALL	IV	II	IV
Pamlico muck, frequently flooded	IV	V	IV
Pamlico muck, ALL OTHER	III	V	III
Pantego, ALL	I	I	I
Paxville sandy loam	II	III	II
Pender fine sandy loam	II	I	II
Pender-Urban land complex	IV	I	IV
Pits, ALL	IV	VI	IV
Pocalla loamy sand, 0 to 6 percent slopes	III	II	III
Rains, ALL	I	I	I
Rains-Urban land complex	IV	I	IV
Rimini sand 1 to 6 percent slopes	IV	V	IV
Roanoke, frequently flooded	IV	III	IV
Roanoke, ALL OTHER	II	III	II
Rumford, ALL	III	II	III
Rutlege mucky loamy fine sand	IV	V	IV
Seabrook, ALL	IV	II	IV
Seabrook-Urban land complex	IV	II	IV
Stallings, ALL	II	II	II
State fine sandy loam, 0 to 2 percent slopes	I	I	I
State fine sandy loam, 2 to 6 percent slopes	II	I	II
State loamy sand, 0 to 2 percent slopes	I	I	I
Stockade fine sandy loam	I	I	I
Suffolk loamy sand, 10 to 30 percent slopes	I	II	I
Swamp	IV	III	IV
Tarboro, ALL	IV	II	IV
Tarboro-Urban land complex, 0 to 6 percent slopes	IV	II	IV

MLRA153A – Lower Coastal Plain

Map Unit Name	Agri	For	Hort
Tomahawk fine sand, 0 to 3 percent slopes	IV	II	IV
Tomahawk loamy fine sand	IV	II	IV
Tomahawk loamy fine sand	IV	II	IV
Tomahawk loamy sand, 0 to 3 percent slopes	III	II	III
Tomotley, ALL	I	I	I
Torhunta, ALL	II	I	II
Torhunta-Urban land complex	IV	I	IV
Tuckerman fine sandy loam	II	II	II
Udorthents, ALL	IV	VI	IV
Udults, steep	IV	VI	IV
Umbric Ochraqualfs	IV	VI	IV
Urban land	IV	VI	IV
Valhalla fine sand, 0 to 6 percent slopes	III	II	III
Wagram loamy fine sand, 0 to 6 percent slopes	II	II	II
Wagram loamy sand, 6 to 10 percent slopes	III	II	III
Wagram loamy sand, 0 to 6 percent slopes	II	II	II
Wagram loamy sand, 10 to 15 percent slopes	IV	II	IV
Wahee, ALL	II	I	II
Wando fine sand, 0 to 6 percent slopes	IV	II	IV
Wando-Urban land complex, 0 to 6 percent slopes	IV	II	IV
Wakulla sand, ALL	IV	V	IV
Wasda muck	I	I	I
Wehadkee silt loam	IV	III	IV
Wickham fine sandy loam, 0 to 2 percent slopes	I	I	I
Wickham fine sandy loam, 2 to 6 percent slopes	II	I	II
Wickham fine sandy loam, 6 to 10 percent slopes	II	I	II
Wickham loamy sand, 1 to 6 percent slopes	II	I	II
Wickham sandy loam, 0 to 2 percent slopes	I	I	I
Wickham sandy loam, 0 to 6 percent slopes	II	I	II
Wickham sandy loam, 0 to 6 percent slopes, rarely flooded	II	I	II
Wickham sandy loam, 2 to 6 percent slopes	II	I	II
Wickham-Urban land complex, 2 to 10 percent slopes	IV	I	IV
Wilbanks, ALL	IV	III	IV
Winton, ALL	IV	I	IV
Woodington, ALL	II	II	II
Wrightsboro fine sandy loam 0 to 2 percent slopes	I	I	I
Yaupon silty clay loam, 0 to 3 percent slopes	III	VI	III

MLRA153B – Tidewater Area

Map Unit Name	Agri	For	Hort
Acredale silt loam, 0 to 2 percent slopes, rarely flooded	I	I	I
Altavista ,ALL	I	I	I
Altavista-Urban land complex, 0 to 2 percent slopes	IV	I	IV
Arapahoe, ALL	I	I	I
Argent, ALL	II	I	II
Augusta ,ALL	II	I	II
Augusta-Urban land complex	IV	I	IV
Backbay mucky peat, 0 to 1 percent slopes, very frequently flooded	IV	VI	IV
Ballahack fine sandy loam, occasionally flooded	I	I	I
Barclay very fine sandy loam	I	I	I
Bayboro, ALL	I	I	I
Baymeade ,ALL	IV	V	IV
Baymeade-Urban land complex 1 to 6 percent slopes	IV	V	IV
Beaches, ALL	IV	VI	IV
Beaches-Newhan association	IV	VI	IV
Beaches-Newhan complex, ALL	IV	VI	IV
Belhaven muck, 0 to 2 percent slopes, frequently flooded	IV	V	IV
Belhaven muck, ALL OTHER	II	V	II
Bertie ,ALL	II	I	II
Bibb soils	IV	III	IV
Bladen ,ALL	III	I	III
Bohicket silty clay loam	IV	VI	IV
Bojac, ALL	III	II	III
Bolling loamy fine sand, 0 to 3 percent slopes, rarely flooded	II	I	II
Borrow pits	IV	VI	IV
Brookman loam, 0 to 2 percent slopes, rarely flooded	II	I	II
Brookman mucky loam, frequently flooded	IV	III	IV
Brookman mucky silt loam	I	I	I
Cape Fear, ALL	I	I	I
Carteret, ALL	IV	VI	IV
Chapanoke silt loam, ALL	I	I	I
Charleston loamy fine sand	III	II	III
Chowan, ALL	IV	III	IV
Conaby muck, ALL	II	I	II
Conetoe, ALL	III	II	III
Corolla, ALL	IV	VI	IV
Corolla-Duckston complex, ALL	IV	VI	IV
Corolla-Urban land complex	IV	VI	IV
Currituck, ALL	IV	VI	IV
Dare muck	IV	V	IV
Deloss fine sandy loam	I	III	I
Deloss mucky loam, frequently flooded	IV	III	IV
Delway muck, 0 to 1 percent slopes, very frequently flooded	IV	VI	IV
Dogue, ALL	II	I	II
Dorovan, ALL	IV	V	IV
Dragston, ALL	II	I	II
Duckston, ALL	IV	VI	IV
Duckston-Corolla complex, 0 to 6 percent slopes, rarely flooded	IV	VI	IV
Dune land, ALL	IV	VI	IV
Dune land-Newhan complex, 2 to 40 percent slopes	IV	VI	IV
Elkton, ALL	II	I	II
Engelhard loamy very fine sand, 0 to 2 percent slopes, frequently flooded	IV	III	IV

MLRA153B – Tidewater Area

Map Unit Name	Agri	For	Hort
Engelhard loamy very fine sand, 0 to 2 percent slopes, rarely flooded	II	III	II
Fallsington fine sandy loam	IV	I	IV
Fork fine sandy loam, 0 to 2 percent slopes, rarely flooded	I	I	I
Fork loamy fine sand	II	I	II
Fortescue, ALL	I	III	I
Fripp fine sand, 2 to 30 percent slopes	IV	VI	IV
Galestown loamy fine sand	IV	II	IV
Gullrock muck, 0 to 2 percent slopes, rarely flooded	II	I	II
Hobonny muck, 0 to 1 percent slopes, frequently flooded	IV	VI	IV
Hobucken, ALL	IV	VI	IV
Hyde, ALL	I	I	I
Hydeland silt loam, 0 to 2 percent slopes, rarely flooded	I	I	I
Icaria loamy fine sand, 0 to 2 percent slopes, rarely flooded	II	I	II
Johns loamy sand, 0 to 2 percent slopes	II	I	II
Klej loamy fine sand	IV	II	IV
Kureb sand 1 to 8 percent slopes	IV	V	IV
Kureb-Urban land complex 1 to 8 percent slopes	IV	V	IV
Lafitte muck, ALL	IV	VI	IV
Lakeland sand 1 to 8 percent slopes	IV	V	IV
Leaf silt loam	III	I	III
Lenoir, ALL	III	I	III
Leon fine sand, 0 to 2 percent slopes, rarely flooded	IV	V	III
Leon sand	IV	V	III
Longshoal mucky peat, 0 to 1 percent slopes, very frequently flooded	IV	VI	IV
Lynn Haven, ALL	IV	II	IV
Made land and dumps	IV	VI	IV
Masontown mucky fine sandy loam	IV	III	IV
Matapeake fine and very fine sandy loams	I	II	I
Mattapex, ALL	II	I	II
Munden, ALL	II	I	II
Newhan, ALL	IV	VI	IV
Newhan-Beaches complex,	IV	VI	IV
Newhan-Corolla complex, ALL	IV	VI	IV
Newhan-Corolla-Urban land complex, 0 to 30 percent slopes	IV	VI	IV
Newhan-Urban land complex, ALL	IV	VI	IV
Newholland mucky loamy sand, 0 to 2 percent slopes, frequently flooded	IV	V	IV
Newholland mucky loamy sand, 0 to 2 percent slopes, rarely flooded	I	V	I
Nimmo, ALL	II	I	II
Nixonton very fine sandy loam	I	I	I
Osier fine sand, ALL	IV	I	IV
Othello, ALL	I	II	I
Ousley fine sand, ALL	IV	V	IV
Pactolus fine sand	IV	II	IV
Pasquotank, ALL	I	I	I
Paxville mucky fine sandy loam	II	III	II
Perquimans, ALL	I	I	I
Pettigrew muck, ALL	II	I	II
Pits, mine	IV	VI	IV
Pocomoke, ALL	II	I	II
Ponzer, ALL	II	V	II
Portsmouth, ALL	I	I	I
Psamments, 0 to 6 percent slopes	IV	VI	IV

MLRA153B – Tidewater Area

Map Unit Name	Agri	For	Hort
Pungo muck, ALL	III	V	III
Roanoke, ALL	II	I	II
Roper muck, ALL	I	I	I
Sassafras loamy fine sand	II	I	II
Scuppernong muck, ALL	II	V	II
Seabrook, ALL	IV	II	IV
Seabrook-Urban land complex	IV	II	IV
Seagate fine sand	IV	II	IV
Seagate-Urban land complex	IV	II	IV
State fine sandy loam, ALL	I	I	I
State loamy fine sand, ALL	II	I	II
State sandy loam, ALL	I	I	I
State-Urban land complex, 0 to 2 percent slopes	IV	I	IV
Stockade loamy fine sand	I	III	I
Stockade mucky loam, ALL	IV	III	IV
Stono, ALL	I	I	I
Tarboro sand, ALL	IV	II	IV
Tidal marsh	IV	VI	IV
Tomotley fine sandy loam, ALL	I	I	I
Udorthents, ALL	IV	VI	IV
Urban land ALL	IV	VI	IV
Wahee, ALL	II	I	II
Wakulla sand, ALL	IV	V	IV
Wando, ALL	IV	II	IV
Wasda muck ALL	I	I	I
Weeksville loam, 0 to 2 percent slopes, frequently flooded	IV	I	IV
Weeksville, ALL OTHER	I	I	I
Wickham loamy sand, 0 to 4 percent slopes	II	I	II
Woodstown fine sandy loam	I	I	I
Wysocking very fine sandy loam, 0 to 3 percent slopes, rarely flooded	I	III	I
Yaupon fine sandy loam, 0 to 3 percent slopes	III	VI	III
Yeopim loam, 0 to 2 percent slopes	I	I	I
Yeopim loam, 2 to 6 percent slopes	II	I	II
Yeopim silt loam, ALL	I	I	I
Yonges, ALL	I	I	I

Standard on Mass Appraisal of Real Property

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International Association of Assessing Officers

This standard replaces the January 2012 *Standard on Mass Appraisal of Real Property* and is a complete revision. The 2012 *Standard on Mass Appraisal of Real Property* was a partial revision that replaced the 2002 standard. The 2002 standard combined and replaced the 1983 *Standard on the Application of the Three Approaches to Value in Mass Appraisal*, the 1984 *Standard on Mass Appraisal*, and the 1988 *Standard on Urban Land Valuation*. IAAO assessment standards represent a consensus in the assessing profession and have been adopted by the Executive Board of IAAO. The objective of IAAO standards is to provide a systematic means by which concerned assessing officers can improve and standardize the operation of their offices. IAAO standards are advisory in nature and the use of, or compliance with, such standards is purely voluntary. If any portion of these standards is found to be in conflict with the *Uniform Standards of Professional Appraisal Practice (USPAP)* or state laws, *USPAP* and state laws shall govern.

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Standard on Mass Appraisal of Real Property

1. Scope

This standard defines requirements for the mass appraisal of real property. The primary focus is on mass appraisal for ad valorem tax purposes. However, the principles defined here should also be relevant to CAMAs (CAMAs) (or automated valuation models) used for other purposes, such as mortgage portfolio management. The standard primarily addresses the needs of the assessor, assessment oversight agencies, and taxpayers.

This standard addresses mass appraisal procedures by which the fee simple interest in property can be appraised at market value, including mass appraisal application of the three traditional approaches to value (cost, sales comparison, and income). Single-property appraisals, partial interest appraisals, and appraisals made on an other-than-market-value basis are outside the scope of this standard. Nor does this standard provide guidance on determining assessed values that differ from market value because of statutory constraints such as use value, classification, or assessment increase limitations.

Mass appraisal requires complete and accurate data, effective valuation models, and proper management of resources. Section 2 introduces mass appraisal. Section 3 focuses on the collection and maintenance of property data. Section 4 summarizes the primary considerations in valuation methods, including the role of the three approaches to value in the mass appraisal of various types of property. Section 5 addresses model testing and quality assurance. Section 6 discusses certain managerial considerations: staff levels, data processing support, contracting for reappraisals, benefit-cost issues, and space requirements. Section 7 discusses reference materials.

2. Introduction

Market value for assessment purposes is generally determined through the application of mass appraisal techniques. Mass appraisal is the process of valuing a group of properties as of a given date and using common data, standardized methods, and statistical testing. To determine a parcel's value, assessing officers must rely upon valuation equations, tables, and schedules developed through mathematical analysis of market data. Values for individual parcels should not be based solely on the sale price of a property; rather, valuation schedules and models should be consistently applied to property data that are correct, complete, and up-to-date.

Properly administered, the development, construction, and use of a CAMA system results in a valuation system characterized by accuracy, uniformity, equity, reliability, and low per-parcel costs. Except for unique properties, individual analyses and appraisals of properties are not practical for ad valorem tax purposes.

3. Collecting and Maintaining Property Data

The accuracy of values depends first and foremost on the completeness and accuracy of property characteristics and market data. Assessors will want to ensure that their CAMA systems provide for the collection and maintenance of relevant land, improvement, and location features. These data must also be accurately and consistently collected. The CAMA system must also provide for the storage and processing of relevant sales, cost, and income and expense data.

3.1 Overview

Uniform and accurate valuation of property requires correct, complete, and up-to-date property data. Assessing offices must establish effective procedures for collecting and maintaining property data (i.e., property ownership, location, size, use, physical characteristics, sales price, rents, costs, and operating expenses). Such data are also used for performance audits, defense of appeals, public relations, and management information. The following sections recommend procedures for collecting these data.

3.2 Geographic Data

Assessors should maintain accurate, up-to-date cadastral maps (also known as assessment maps, tax maps, parcel boundary maps, and property ownership maps) covering the entire jurisdiction with a unique identification number for each parcel. Such cadastral maps allow assessing officers to identify and locate all parcels, both in the field and in the office. Maps become especially valuable in the mass appraisal process when a geographic information system (GIS) is used. A GIS permits graphic displays of sale prices, assessed values, inspection dates, work assignments, land uses, and much more. In addition, a GIS permits high-level analysis of nearby sales, neighborhoods, and market trends; when linked to a CAMA system, the results can be very useful. For additional information on cadastral maps, parcel identification systems, and GIS, see the *Standard on Manual Cadastral Maps and Parcel Identifiers* (IAAO 2016b), *Standard on Digital Cadastral Maps and Parcel Identifiers* (IAAO 2015), *Procedures and Standards for a Multipurpose Cadastre* (National Research Council 1983), and *GIS Guidelines for Assessors* (URISA and IAAO 1999).

3.3 Property Characteristics Data

The assessor should collect and maintain property characteristics data sufficient for classification, valuation, and other purposes. Accurate valuation of real property by any method requires descriptions of land and building characteristics.

3.3.1 Selection of Property Characteristics Data

Property characteristics to be collected and maintained should be based on the following:

- Factors that influence the market in the locale in question
- Requirements of the valuation methods that will be employed
- Requirements of classification and property tax policy
- Requirements of other governmental and private users
- Marginal benefits and costs of collecting and maintaining each property characteristic

Determining what data on property characteristics to collect and maintain for a CAMA system is a crucial decision with long-term consequences. A pilot program is one means of evaluating the benefits and costs of collecting and maintaining a particular set of property characteristics (see Gloudemans and Almy 2011, 46–49). In addition, much can be learned from studying the data used in successful CAMAs in other jurisdictions. Data collection and maintenance are usually the costliest aspects of a CAMA. Collecting data that are of little

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importance in the assessment process should be avoided unless another governmental or private need is clearly demonstrated.

The quantity and quality of existing data should be reviewed. If the data are sparse and unreliable, a major recanvass will be necessary. Data that have been confirmed to be reliable should be used whenever possible. New valuation programs or enhancements requiring major recanvass activity or conversions to new coding formats should be viewed with suspicion when the existing database already contains most major property characteristics and is of generally good quality.

The following property characteristics are usually important in predicting residential property values:

Improvement Data

- Living area
- Construction quality or key components thereof (foundation, exterior wall type, and the like)
- Effective age or condition
- Building design or style
- Secondary areas including basements, garages, covered porches, and balconies
- Building features such as bathrooms and central air-conditioning
- Significant detached structures including guest houses, boat houses, and barns

Land Data

- Lot size
- Available utilities (sewer, water, electricity)

Location Data

- Market area
- Submarket area or neighborhood
- Site amenities, especially view and golf course or water frontage
- External nuisances, (e.g., heavy traffic, airport noise, or proximity to commercial uses).

For a discussion of property characteristics important for various commercial property types, see *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011, chapter 9).

3.3.2 Data Collection

Collecting property characteristics data is a critical and expensive phase of reappraisal. A successful data collection program requires clear and standard coding and careful monitoring through a quality control program. The development and use of a data collection manual is essential to achieving accurate and consistent data collection. The data collection program should result in complete and accurate data.

3.3.2.1 Initial Data Collection

A physical inspection is necessary to obtain initial property characteristics data. This inspection can be performed either by appraisers or by specially trained data collectors. In a joint approach, experienced appraisers make key subjective decisions, such as the assignment of construction quality class or grade, and data collectors gather all other details. Depending on the data required, an interior inspection might be necessary. At a minimum, a comprehensive exterior inspection should be conducted. Measurement is an important part of data collection.

3.3.2.2 Data Collection Format

Data should be collected in a prescribed format designed to facilitate both the collecting of data in the field and the entry of the data into the computer system.

A logical arrangement of the collection format makes data collection easier. For example, all items requiring an interior inspection should be grouped together. The coding of data should be as objective as possible, with measurements, counts, and check-off items used in preference to items requiring subjective evaluations (such as “number of plumbing fixtures” versus “adequacy of plumbing: poor, average, good”). With respect to check-off items, the available codes should be exhaustive and mutually exclusive, so that exactly one code logically pertains to each observable variation of a building feature (such as structure or roof type). The data collection format should promote consistency among data collectors, be clear and easy to use, and be adaptable to virtually all types of construction. Specialized data collection formats may be necessary to collect information on agricultural property, timberland, commercial and industrial parcels, and other property types.

3.3.2.3 Data Collection Manuals

A clear, thorough, and precise data collection manual is essential and should be developed, updated, and maintained. The written manual should explain how to collect and record each data item. Pictures, examples, and illustrations are particularly helpful. The manual should be simple yet complete. Data collection staff should be trained in the use of the manual and related updates to maintain consistency. The manual should include guidelines for personal conduct during field inspections, and if interior data are required, the manual should outline procedures to be followed when the property owner has denied access or when entry might be risky.

3.3.2.4 Data Accuracy Standards

The following standards of accuracy for data collection are recommended.

- Continuous or area measurement data, such as living area and exterior wall height, should be accurate within 1 foot (rounded to the nearest foot) of the true dimensions or within 5 percent of the area. (One foot equates to approximately 30 centimeters in the metric system.) If areas, dimensions, or volumes must be estimated, the property record should note the instances in which quantities are estimated.
- For each objective, categorical, or binary data field to be collected or verified, at least 95 percent of the coded entries should be accurate. Objective, categorical, or binary data characteristics include such attributes as exterior wall material, number of full bathrooms, and waterfront view. As an example, if a data collector captures 10 objective, categorical, or binary data items for 100 properties, at least 950 of the 1,000 total entries should be correct.
- For each subjective categorical data field collected or verified, data should be coded correctly at least 90 percent of the time. Subjective categorical data characteristics include data items such as quality grade, physical condition, and architectural style.
- Regardless of specific accuracy requirements, consistent measurement is important. Standards including national, local and regional practices exist to support consistent measurement. The standard of measurement should be documented as part of the process. (American Institute of Architects 1995; Marshall & Swift Valuation Service 2017; International Property Measurement Standards Coalition n.d.; Building Owners and Managers Association International 2017)

3.3.2.5 Data Collection Quality Control

A quality control program is necessary to ensure that data accuracy standards are achieved and maintained. Independent quality control inspections should occur immediately after the data collection phase begins and may be performed by jurisdiction staff, project consultants,

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auditing firms, or oversight agencies. The inspections should review random samples of finished work for completeness and accuracy and keep tabulations of items coded correctly or incorrectly, so that statistical tests can be used to determine whether accuracy standards have been achieved. Stratification by geographic area, property type, or individual data collector can help detect patterns of data error. Data that fail to meet quality control standards should be recollected.

The accuracy of subjective data should be judged primarily by conformity with written specifications and examples in the data collection manual. The data reviewer should substantiate subjective data corrections with pictures or field notes.

3.3.3 Data Entry

To avoid duplication of effort, the data collection form should be able to serve as the data entry form. Data entry should be routinely audited to ensure accuracy.

Data entry accuracy should be as close to 100 percent as possible and should be supported by a full set of range and consistency edits. These are error or warning messages generated in response to invalid or unusual data items. Examples of data errors include missing data codes and invalid characters. Warning messages should also be generated when data values exceed normal ranges (e.g., more than eight rooms in a 1,200-square-foot residence). The warnings should appear as the data are entered. When feasible, action on the warnings should take place during data entry. Field data entry devices provide the ability to edit data as it is entered and also eliminate data transcription errors.

3.3.4 Maintaining Property Characteristics Data

Property characteristics data should be continually updated in response to changes brought about by new construction, new parcels, remodeling, demolition, and destruction. There are several ways of updating data. The most efficient method involves building permits. Ideally, strictly enforced local ordinances require building permits for all significant construction activity, and the assessor's office receives copies of the permits. This method allows the assessor to identify properties whose characteristics are likely to change, to inspect such parcels on a timely basis (preferably as close to the assessment date as possible), and to update the files accordingly.

Another method is aerial photography, which also can be helpful in identifying new or previously unrecorded construction and land use. Some jurisdictions use self-reporting, in which property owners review the assessor's records and submit additions or corrections. Information derived from multiple listing sources and other third-party vendors can also be used to validate property records.

Periodic field inspections can help ensure that property characteristics data are complete and accurate. Assuming that most new construction activity is identified through building permits or other ongoing procedures, a physical review including an on-site verification of property characteristics should be conducted at least every 4 to 6 years. Reinspections should include partial remeasurement of the two most complex sides of improvements and a walk around the improvement to identify additions and deletions. Photographs taken at previous physical inspections can help identify changes.

3.3.5 Alternative to Periodic On-site Inspections

Provided that initial physical inspections are timely completed and that an effective system of building permits or other methods of routinely identifying physical changes is in place, jurisdictions may employ a set of digital imaging technology tools to supplement field reinspections

with a computer-assisted office review. These imaging tools should include the following:

- Current high-resolution street-view images (at a sub-inch pixel resolution that enables quality grade and physical condition to be verified)
- Orthophoto images (minimum 6-inch pixel resolution in urban/suburban and 12-inch resolution in rural areas, updated every 2 years in rapid-growth areas or 6–10 years in slow-growth areas)
- Low-level oblique images capable of being used for measurement verification (four cardinal directions, minimum 6-inch pixel resolution in urban/suburban and 12-inch pixel resolution in rural areas, updated every 2 years in rapid-growth areas or 6–10 years in slow-growth areas).

These tool sets may incorporate change detection techniques that compare building dimension data (footprints) in the CAMA system to georeferenced imagery or remote sensing data from sources (such as LiDAR [light detection and ranging]) and identify potential CAMA sketch discrepancies for further investigation.

Assessment jurisdictions and oversight agencies must ensure that images meet expected quality standards. Standards required for vendor-supplied images should be spelled out in the Request for Proposal (RFP) and contract for services, and images should be checked for compliance with specified requirements. For general guidance on preparing RFPs and contracting for vendor-supplied services, see the *Standard on Contracting for Assessment Services* [IAAO 2008].

In addition, appraisers should visit assigned areas on an annual basis to observe changes in neighborhood condition, trends, and property characteristics. An on-site physical review is recommended when significant construction changes are detected, a property is sold, or an area is affected by catastrophic damage. Building permits should be regularly monitored and properties that have significant change should be inspected when work is complete.

3.4 Sale Data

States and provinces should seek mandatory disclosure laws to ensure comprehensiveness of sale data files. Regardless of the availability of such statutes, a file of sale data must be maintained, and sales must be properly reviewed and validated. Sale data are required in all applications of the sales comparison approach, in the development of land values and market-based depreciation schedules in the cost approach, and in the derivation of capitalization rates or discount rates in the income approach. Refer to *Mass Appraisal of Real Property* (Gloude-mans 1999, chapter 2) or *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011 chapter 2) for guidelines on the acquisition and processing of sale data.

3.5 Income and Expense Data

Income and expense data must be collected for income-producing property and reviewed by qualified appraisers to ensure their accuracy and usability for valuation analysis (see Section 4.4.). Refer to *Mass Appraisal of Real Property* (Gloude-mans 1999, chapter 2) or *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011, chapter 2) for guidelines addressing the collection and processing of income and expense data.

3.6 Cost and Depreciation Data

Current cost and depreciation data adjusted to the local market are required for the cost approach (see Section 4.2). Cost and depreciation manuals and schedules can be purchased from commercial services or created in-house. See *Mass Appraisal of Real Property* (Gloude-mans 1999, chapter 4) or *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011, 180–193) for guidelines on creating manuals and schedules.

4. Valuation

Mass appraisal analysis begins with assigning properties to use classes or strata based on highest and best use, which normally equates to current use. Some statutes require that property be valued for ad valorem tax purposes at current use regardless of highest and best use. Zoning and other land use controls normally dictate highest and best use of vacant land. In the absence of such restrictions, the assessor must determine the highest and best use of the land by analyzing the four components—legally permissible, physically possible, appropriately supported, and financially feasible—thereby resulting in the highest value. Special attention may be required for properties in transition, interim or nonconforming uses, multiple uses, and excess land.

4.1 Valuation Models

Any appraisal, whether single-property appraisal or mass appraisal, uses a model, that is, a representation in words or an equation of the relationship between value and variables representing factors of supply and demand. Mass appraisal models attempt to represent the market for a specific type of property in a specified area. Mass appraisers must first specify the model, that is, identify the supply and demand factors and property features that influence value, for example, square feet of living area. Then they must calibrate the model, that is, determine the adjustments or coefficients that best represent the value contribution of the variables chosen, for example, the dollar amount the market places on each square foot of living area. Careful and extensive market analysis is required for both specification and calibration of a model that estimates values accurately. Mass appraisal models apply to all three approaches to value: the cost approach, the sales comparison approach, and the income approach.

Valuation models are developed for defined property groups. For residential properties, geographic stratification is appropriate when the value of property attributes varies significantly among areas and each area is large enough to provide adequate sales. It is particularly effective when housing types and styles are relatively uniform within areas. Separate models are developed for each market area (also known as economic or model areas). Subareas or neighborhoods can serve as variables in the models and can also be used in land value tables and selection of comparable sales. (See *Mass Appraisal of Real Property* [Gloude-mans 1999, 118–120] or *Fundamentals of Mass Appraisal* [Gloude-mans and Almy 2011, 139–143] for guidelines on stratification.) Smaller jurisdictions may find it sufficient to develop a single residential model.

Commercial and income-producing properties should be stratified by property type. In general, separate models should be developed for apartment, warehouse/industrial, office, and retail properties. Large jurisdictions may be able to stratify apartment properties further by type or area or to develop multiple models for other income properties with adequate data.

4.2 The Cost Approach

The cost approach is applicable to virtually all improved parcels and, if used properly, can produce accurate valuations. The cost approach is more reliable for newer structures of standard materials, design, and workmanship. It produces an estimate of the value of the fee simple interest in a property.

Reliable cost data are imperative in any successful application of the cost approach. The data must be complete, typical, and current. Current construction costs should be based on the cost of replacing a structure with one of equal utility, using current materials, design, and building standards. In addition to specific property types, cost models should

include the cost of individual construction components and building items in order to adjust for features that differ from base specifications. These costs should be incorporated into a construction cost manual and related computer software. The software can perform the valuation function, and the manual, in addition to providing documentation, can be used when nonautomated calculations are required.

Construction cost schedules can be developed in-house, based on a systematic study of local construction costs, obtained from firms specializing in such information, or custom-generated by a contractor. Cost schedules should be verified for accuracy by applying them to recently constructed improvements of known cost. Construction costs also should be updated before each assessment cycle.

The most difficult aspects of the cost approach are estimates of land value and accrued depreciation. These estimates must be based on non-cost data (primarily sales) and can involve considerable subjectivity. Land values used in the cost approach must be current and consistent. Often, they must be extracted from sales of improved property because sales of vacant land are scarce. Section 4.5 provides standards for land valuation in mass appraisal.

Depreciation schedules can be extracted from sales data in several ways. See *Mass Appraisal of Real Property* (Gloude-mans 1999, chapter 4) or *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011, 189–192).

4.3 The Sales Comparison Approach

The sales comparison approach estimates the value of a subject property by statistically analyzing the sale prices of similar properties. This approach is usually the preferred approach for estimating values for residential and other property types with adequate sales.

Applications of the sales comparison approach include direct market models and comparable sales algorithms (see *Mass Appraisal of Real Property* [Gloude-mans 1999, chapters 3 and 4], *Fundamentals of Mass Appraisal* [Gloude-mans and Almy 2011, chapters 4 and 6], and the *Standard on Automated Valuation Models (AVMs)* [IAAO 2003]). Comparable sales algorithms are most akin to single-property appraisal applications of the sales comparison approach. They have the advantages of being familiar and easily explained and can compensate for less well-specified or calibrated models, because the models are used only to make adjustments to the selected comparables. They can be problematic if the selected comparables are not well validated or representative of market value. Because they predict market value directly, direct market models depend more heavily on careful model specification and calibration. Their advantages include efficiency and consistency, because the same model is directly applied against all properties in the model area.

Users of comparable sales algorithms should be aware that sales ratio statistics will be biased if sales used in the ratio study are used as comparables for themselves in model development. This problem can be avoided by (1) not using sales as comparables for themselves in modeling or (2) using holdout or later sales in ratio studies.

4.4 The Income Approach

In general, for income-producing properties, the income approach is the preferred valuation approach when reliable income and expense data are available, along with well-supported income multipliers, overall rates, and required rates of return on investment. Successful application of the income approach requires the collection, maintenance, and careful analysis of income and expense data.

Mass appraisal applications of the income approach begin with collecting and processing income and expense data. (These data should be expressed on an appropriate per-unit basis, such as per square foot or per apartment unit.) Appraisers should then compute normal or typical gross incomes, vacancy rates, net incomes, and expense ratios for various homogeneous strata of properties. These figures can be used to judge the reasonableness of reported data for individual parcels and to estimate income and expense figures for parcels with unreported data. Actual or

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reported figures can be used as long as they reflect typical figures (or typical figures can be used for all properties).

Alternatively, models for estimating gross or net income and expense ratios can be developed by using actual income and expense data from a sample of properties and calibrated by using multiple regression analysis. For an introduction to income modeling, see *Mass Appraisal of Real Property* (Gloude-mans 1999, chapter 3) or *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011, chapter 9). The developed income figures can be capitalized into estimates of value in a number of ways. The most direct method involves the application of gross income multipliers, which express the ratio of market value to gross income. At a more refined level, net income multipliers or their reciprocals, overall capitalization rates, can be developed and applied. Provided there are adequate sales, these multipliers and rates should be extracted from a comparison of actual or estimated incomes with sale prices (older income and sales data should be adjusted to the valuation date as appropriate). Income multipliers and overall rates developed in this manner tend to provide reliable, consistent, and readily supported valuations when good sales and income data are available. When adequate sales are not available, relevant publications and local market participants can be consulted.

4.5 Land Valuation

State or local laws may require the value of an improved parcel to be separated into land and improvement components. When the sales comparison or income approach is used, an independent estimate of land value can be made and subtracted from the total property value to obtain a residual improvement value. Some computerized valuation techniques provide a separation of total value into land and building components.

Land values should be reviewed annually. At least once every 4 to 6 years the properties should be physically inspected and revalued. The sales comparison approach is the primary approach to land valuation and is always preferred when sufficient sales are available. In the absence of adequate sales, other techniques that can be used in land appraisal include allocation, abstraction, anticipated use, capitalization of ground rents, and land residual capitalization. (See *Mass Appraisal of Real Property* [Gloude-mans 1999, chapter 3] or *Fundamentals of Mass Appraisal* [Gloude-mans and Almy 2011, 178–180].)

4.6 Considerations by Property Type

The appropriateness of each valuation approach varies with the type of property under consideration. Table 1 ranks the relative usefulness of the three approaches in the mass appraisal of major types of properties. The table assumes that there are no major statutory barriers to using all three approaches or to obtaining cost, sales, and income data. Although relying only on the single best approach for a given type of property can have advantages in terms of efficiency and consistency, the use of two or more approaches provides helpful cross-checks and flexibility and can thus produce greater accuracy, particularly for less typical properties.

Table 1. Rank of typical usefulness of the three approaches to value in the mass appraisal of major types of property

Type of Property	Cost Approach	Sales Comparison Approach	Income Approach
Single-family residential	2	1	3
Multifamily residential	3	1,2	1,2
Commercial	3	2	1
Industrial	1,2	3	1,2
Nonagricultural land	–	1	2
Agricultural ^a	–	2	1
Special-purpose ^b	1	2,3	2,3

^a Includes farm, ranch, and forest properties.

^b Includes institutional, governmental, and recreation properties.

4.6.1 Single-Family Residential Property

The sales comparison approach is the best approach for single-family residential property, including condominiums. Automated versions of this approach are highly efficient and generally accurate for the majority of these properties. The cost approach is a good supplemental approach and should serve as the primary approach when the sales data available are inadequate. The income approach is usually inappropriate for mass appraisal of single-family residential properties, because most of these properties are not rented.

4.6.2 Manufactured Housing

Manufactured or *mobile* homes can be valued in a number of ways depending on the local market and ownership status. Often mobile homes are purchased separately and situated on a rented space in a mobile home park. In this case the best strategy is to model the mobile homes separately from the land. At other times mobile homes are situated on individual lots and bought and sold similar to stick-built homes. Particularly in rural areas they may be intermixed with stick-built homes. In these cases, they can be modeled in a manner similar to that for other residential properties and included in the same models, as long as the model includes variables to distinguish them and recognize any relevant differences from other homes (e.g., mobile homes may appreciate at a rate different from that for stick-built homes).

4.6.3 Multifamily Residential Property

The sales comparison and income approaches are preferred in valuing multifamily residential property when sufficient sales and income data are available. Multiple regression analysis (MRA) and related techniques have been successfully used in valuing this property type. Where adequate sales are available, direct sales models can be used. MRA also can be used to calibrate different portions of the income approach, including the estimation of market rents and development of income multipliers or capitalization rates. As with other residential property, the cost approach is useful in providing supplemental valuations and can serve as the primary approach when good sales and income data are not available.

4.6.4 Commercial and Industrial Property

The income approach is the most appropriate method in valuing commercial and industrial property if sufficient income data are available. Direct sales comparison models can be equally effective in large jurisdictions with sufficient sales. When a sufficient supply of sales data and income data is not available, the cost approach should be

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applied. However, values generated should be checked against available sales data. Cost factors, land values, and depreciation schedules must be kept current through periodic review.

4.6.5 Nonagricultural Land

The sales comparison approach is preferred for valuing nonagricultural land. Application of the sales comparison approach to vacant land involves the collection of sales data, the posting of sales data on maps, the calculation of standard unit values (such as value per square foot, per front foot, or per parcel) by area and type of land use, and the development of land valuation maps or computer-generated tables in which the pattern of values is displayed. When vacant land sales are not available or are few, additional benchmarks can be obtained by subtracting the replacement cost net less depreciation of improvements from the sale prices of improved parcels. The success of this technique requires reliable cost data and tends to work best for relatively new improvements, for which depreciation is minimal.

Another approach is a *hybrid* model decomposable into land and building values. Although these models can be calibrated from improved sales alone, separation of value between land and buildings is more reliable when both vacant and improved sales are available.

4.6.6 Agricultural Property

If adequate sales data are available and agricultural property is to be appraised at market value, the sales comparison approach is preferred. However, most states and provinces provide for the valuation of agricultural land at use value, making the sales comparison approach inappropriate for land for which market value exceeds use value. Thus, it is often imperative to obtain good income data and to use the income approach for agricultural land. Land rents are often available, sometimes permitting the development and application of overall capitalization rates. Many states and provinces have soil maps that assign land to different productivity classes for which typical rents can be developed. Cost tables can be used to value agricultural buildings.

4.6.7 Special-Purpose Property

The cost approach tends to be most appropriate in the appraisal of special-purpose properties, because of the distinctive nature of such properties and the general absence of adequate sales or income data.

4.7 Value Reconciliation

When more than one approach or model is used for a given property group, the appraiser must determine which to use or emphasize. Often this can be done by comparing ratio study statistics. Although there are advantages to being consistent, sometimes an alternative approach or method is more reliable for special situations and atypical properties. CAMA systems should allow users to document the approach or method being used for each property.

4.8 Frequency of Reappraisals

Section 4.2.2 of the *Standard on Property Tax Policy* (IAAO 2010) states that current market value implies annual assessment of all property. Annual assessment does not necessarily mean, however, that each property must be re-examined each year. Instead, models can be recalibrated, or market adjustment factors derived from ratio studies or other market analyses applied based on criteria such as property type, location, size, and age.

Analysis of ratio study data can suggest groups or strata of properties in greatest need of physical review. In general, market adjustments can be highly effective in maintaining equity when appraisals are uniform within strata and recalibration can provide even greater accuracy. However, only physical reviews can correct data errors and, as stated in

Sections 3.3.4 and 3.3.5, property characteristics data should be reviewed and updated at least every 4 to 6 years. This can be accomplished in at least three ways:

- Reinspecting all property at periodic intervals (i.e., every 4 to 6 years)
- Reinspecting properties on a cyclical basis (e.g., one-fourth or one-sixth each year)
- Reinspecting properties on a priority basis as indicated by ratio studies or other considerations while still ensuring that all properties are examined at least every sixth year

5. Model Testing, Quality Assurance, and Value Defense

Mass appraisal allows for model testing and quality assurance measures that provide feedback on the reliability of valuation models and the overall accuracy of estimated values. Modelers and assessors must be familiar with these diagnostics so they can evaluate valuation performance properly and make improvements where needed.

5.1 Model Diagnostics

Modeling software contains various statistical measures that provide feedback on model performance and accuracy. MRA software contains multiple sets of diagnostic tools, some of which relate to the overall predictive accuracy of the model and some of which relate to the relative importance and statistical reliability of individual variables in the model. Modelers must understand these measures and ensure that final models not only make appraisal sense but also are statistically sound.

5.2 Sales Ratio Analyses

Regardless of how values were generated, sales ratio studies provide objective, bottom-line indicators of assessment performance. The IAAO literature contains extensive discussions of this important topic, and the *Standard on Ratio Studies* (2013) provides guidance for conducting a proper study. It also presents standards for key ratio statistics relating to the two primary aspects of assessment performance: level and uniformity. The following discussion summarizes these standards and describes how the assessor can use sales ratio metrics to help ensure accurate, uniform values.

5.2.1 Assessment Level

Assessment level relates to the overall or general level of assessment of a jurisdiction and various property classes, strata, and groups within the jurisdiction. Each group must be assessed at market value as required by professional standards and applicable statutes, rules, and related requirements. The three common measures of central tendency in ratio studies are the median, mean, and weighted mean. The *Standard on Ratio Studies* (2013) stipulates that the median ratio should be between 0.90 and 1.10 and provides criteria for determining whether it can be concluded that the standard has not been achieved for a property group. Current, up-to-date valuation models, schedules, and tables help ensure that assessment levels meet required standards, and values can be statistically adjusted between full reappraisals or model recalibrations to ensure compliance.

5.2.2 Assessment Uniformity

Assessment uniformity relates to the consistency and equity of values. Uniformity has several aspects, the first of which relates to consistency in assessment levels between property groups. It is important to ensure, for example, that residential and commercial properties are appraised at similar percentages of market value (regardless of the legal assessment ratios that may then be applied) and that residential assessment levels are consistent among neighborhoods, construction classes, age groups, and size groups. Consistency among property groups can be evaluated by comparing measures of central tendency calculated for each group.

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Various graphs can also be used for this purpose. The *Standard on Ratio Studies* (IAAO 2013) stipulates that the level of appraisal for each major group of properties should be within 5 percent of the overall level for the jurisdiction and provides criteria for determining whether it can be concluded from ratio data that the standard has not been met.

Another aspect of uniformity relates to the consistency of assessment levels within property groups. There are several such measures, the preeminent of which is the coefficient of dispersion (COD), which represents the average percentage deviation from the median ratio. The lower the COD, the more uniform the ratios within the property group. In addition, uniformity can be viewed spatially by plotting sales ratios on thematic maps.

The *Standard on Ratio Studies* (IAAO 2013) provides the following standards for the COD:

- Single-family homes and condominiums: CODs of 5 to 10 for newer or fairly similar residences and 5 to 15 for older or more heterogeneous areas
- Income-producing properties: CODs of 5 to 15 in larger, urban areas and 5 to 20 in other areas
- Vacant land: CODs of 5 to 20 in urban areas and 5 to 25 in rural or seasonal recreation areas
- Rural residential, seasonal, and manufactured homes: CODs of 5 to 20.

The entire appraisal staff must be aware of and monitor compliance with these standards and take corrective action where necessary. Poor uniformity within a property group is usually indicative of data problems or deficient valuation procedures or tables and cannot be corrected by application of market adjustment factors.

A final aspect of assessment uniformity relates to equity between low- and high-value properties. Although there are statistical subtleties that can bias evaluation of price-related uniformity, the IAAO literature (see particularly *Fundamentals of Mass Appraisal* [Gloude-mans and Almy 2011, 385–392 and Appendix B] and the *Standard on Ratio Studies* [IAAO 2013]) provides guidance and relevant measures, namely, the price-related differential (PRD) and coefficient of price-related bias (PRB).

The PRD provides a simple gauge of price-related bias. The *Standard on Ratio Studies* (IAAO 2013) calls for PRDs of 0.98 to 1.03. PRDs below 0.98 tend to indicate assessment progressivity, the condition in which assessment ratios increase with price. PRDs above 1.03 tend to indicate assessment regressivity, in which assessment ratios decline with price. The PRB indicates the percentage by which assessment ratios change whenever values double or are halved. For example, a PRB of -0.03 would mean that assessment levels fall by 3 percent when value doubles. The *Standard on Ratio Studies* calls for PRBs of -0.05 to $+0.05$ and regards PRBs outside the range of -0.10 to $+0.10$ as unacceptable.

Because price is observable only for sale properties, there is no easy correction for the PRB, which is usually due to problems in valuation models and schedules. Sometimes other ratio study diagnostics will provide clues. For example, high ratios for lower construction classes may indicate that base rates should be reduced for those classes, which should in turn improve assessment ratios for low-value properties.

5.3 Holdout Samples

Holdout samples are validated sales that are not used in valuation but instead are used to test valuation performance. Holdout samples should be randomly selected with a view to obtaining an adequate sample while ensuring that the number of sales available for valuation will provide

reliable results for the range of properties that must be valued (holdout samples of 10 to 20 percent are typical). If too few sales are available, later sales can be validated and used for the same purpose. (For a method of using sales both to develop and test valuation models, see "The Use of Cross-validation in CAMA Modeling to Get the Most Out of Sales" [Jensen 2011].)

Since they were not used in valuation, holdout samples can provide more objective measures of valuation performance. This can be particularly important when values are not based on a common algorithm as cost and MRA models are. Manually assigning land values, for example, might produce sales ratio statistics that appear excellent but are not representative of broader performance for both sold and unsold properties. Comparable sales models that value a sold property using the sale of a property as a comparable for itself can produce quite different results when tested on a holdout group.

When a new valuation approach or technique is used for the first time, holdout sales can be helpful in validating use of the new method. In general, however, holdout samples are unnecessary as long as valuation models are based on common algorithms and schedules and the value assigned to a sale property is not a function of its price. Properly validated later sales can provide follow-up performance indicators without compromising the number of sales available for valuation.

5.4 Documentation

Valuation procedures and models should be documented. Appraisal staff should have at least a general understanding of how the models work and the various rates and adjustments made by the models. Cost manuals should be current and contain the rates and adjustments used to value improvements by the cost approach. Similarly, land values should be supported by tables of rates and adjustments for features such as water frontage, traffic, and other relevant influences. MRA models and other sales comparison algorithms should document final equations and should be reproducible, so that rerunning the model produces the same value. Schedules of rental rates, vacancy rates, expense ratios, income multipliers, and capitalization rates should document how values based on the income approach were derived.

It can be particularly helpful to prepare a manual, booklet, or report for each major property type that provides a narrative summary of the valuation approach and methodology and contains at least the more common rates and adjustments. Examples of how values were computed for sample properties can be particularly helpful. The manuals serve as a resource for current staff and can be helpful in training new staff or explaining the valuation process to other interested parties. Once prepared, the documents should be updated when valuation schedules change or methods and calculation procedures are revised.

5.5 Value Defense

The assessment office staff must have confidence in the appraisals and be able to explain and defend them. This confidence begins with application of reliable appraisal techniques, generation of appropriate valuation reports, and review of preliminary values. It may be helpful to have reports that list each parcel, its characteristics, and its calculated value. Parcels with unusual characteristics, extreme values, or extreme changes in values should be identified for subsequent individual review. Equally important, summary reports should show average values, value changes, and ratio study statistics for various strata of properties. These should be reviewed to ensure the overall consistency of values for various types of property and various locations. (See the *Uniform Standards of Professional Appraisal Practice*, Standards Rule 6-7, for reporting requirements for mass appraisals [The Appraisal Foundation 2012–2013].)

The staff should also be prepared to support individual valuations as required, preferably through comparable sales. At a minimum, staff should be able to produce a property record and explain the basic

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approach (cost, sales comparison, or income) used to estimate the value of the property. A property owner should never be told simply that “the computer” or “the system” produced the appraisal. In general, the staff should tailor the explanation to the taxpayer’s knowledge and expertise. Equations converted to tabular form can be used to explain the basis for valuation. In all cases, the assessment office staff should be able to produce sales or appraisals of similar properties in order to support (or at least explain) the valuation of the property in question. Comparable sales can be obtained from reports that list sales by such features as type of property, area, size, and age. Alternatively, interactive programs can be obtained or developed that identify and display the most comparable properties.

Assessors should notify property owners of their valuations in sufficient time for property owners to discuss their appraisals with the assessor and appeal the value if they choose to do so (see the *Standard on Public Relations* [IAAO 2011]). Statutes should provide for a formal appeals process beyond the assessor’s level (see the *Standard on Assessment Appeal* [IAAO 2016a]).

6. Managerial and Space Considerations

6.1 Overview

Mass appraisal requires staff, technical, and other resources. This section discusses certain key managerial and facilities considerations.

6.2 Staffing and Space

A successful in-house appraisal program requires trained staff and adequate facilities in which to work and meet with the public.

6.2.1 Staffing

Staff should comprise persons skilled in general administration, supervision, appraisal, mapping, data processing, ~~and secretarial~~ and clerical functions. Typical staffing sizes and patterns for jurisdictions of various sizes are illustrated in *Fundamentals of Mass Appraisal* (Gloude-mans and Almy 2011, 22–25). Staffing needs can vary significantly based on factors such as frequency of reassessments.

6.2.2 Space Considerations

The following minimum space standards are suggested for managerial, supervisory, and support staff:

- *Chief assessing officer* (e.g., *Assessor, director*)—a private office, enclosed by walls or windows extending to the ceiling, of 200 square feet (18 to 19 square meters)
- *Management position* (e.g., *chief deputy assessor, head of a division in a large jurisdiction, and so on*)—a private office, enclosed by walls or windows extending to the ceiling, of 170 square feet (15 to 16 square meters)
- *Supervisory position* (head of a section, unit, or team of appraisers, mappers, analysts, technicians, or clerks)—a private office or partitioned space of 150 square feet (14 square meters)
- *Appraisers and technical staff*—private offices or at least partitioned, quiet work areas of 50 to 100 square feet (5 to 10 square meters), not including aisle and file space, with a desk and chair
- *Support staff*—adequate workspace, open or partitioned, to promote intended work functions and access.

In addition, there should be adequate space for

- File storage and access
- Training and meetings

- Mapping and drafting
- Public service areas
- Printing and photocopy equipment
- Library facilities.

6.3 Data Processing Support

CAMAs require considerable data processing support.

6.3.1 Hardware

The hardware should be powerful enough to support applications of the cost, sales comparison, and income approaches, as well as data maintenance and other routine operations. Data downloading, mass calculations, GIS applications, and Web support tend to be the most computer-intensive operations. Processing speed and efficiency requirements should be established before hardware acquisition. Computer equipment can be purchased, leased, rented, or shared with other jurisdictions. If the purchase option is chosen, the equipment should be easy to upgrade to take advantage of technological developments without purchasing an entirely new system.

6.3.2 Software

CAMA software can be developed internally, adapted from software developed by other public agencies, or purchased (in whole or in part) from private vendors. (Inevitably there will be some tailoring needed to adapt externally developed software to the requirements of the user’s environment.) Each alternative has advantages and disadvantages. The software should be designed so that it can be easily modified; it should also be well documented, at both the appraiser/user and programmer levels.

CAMA software works in conjunction with various general-purpose software, typically including word processing, spreadsheet, statistical, and GIS programs. These programs and applications must be able to share data and work together cohesively.

Security measures should exist to prevent unauthorized use and to provide backup in the event of accidental loss or destruction of data.

6.3.2.1 Custom Software

Custom software is designed to perform specific tasks, identified by the jurisdiction, and can be specifically tailored to the user’s requirements. The data screens and processing logic can often be customized to reflect actual or desired practices, and the prompts and help information can be tailored to reflect local terminology and convention.

After completing the purchase or license requirements, the jurisdiction should retain access to the program source code, so other programmers are able to modify the program to reflect changing requirements.

The major disadvantages of custom software are the time and expense of writing, testing, and updating. Particular attention must be paid to ensuring that user requirements are clearly conveyed to programmers and reflected in the end product, which should not be accepted until proper testing has been completed. Future modifications to programs, even those of a minor nature, can involve system administrator approval and can be a time-consuming, costly, and rigorous job. (See *Standard on Contracting for Assessment Services* [IAAO 2008].)

6.3.2.2 Generic Software

An alternative to custom software is generic software, of which there are two major types: vertical software, which is written for a specific industry, and horizontal software, which is written for particular applications regardless of industry. Examples of the latter include database, spreadsheet, word processing, and statistical software. Although the actual instruction code within these programs cannot be modified, they typically permit the user to create a variety of customized

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templates, files, and documents that can be processed. These are often referred to as commercial off-the-shelf software (COTS) packages.

Generic vertical software usually requires modification to fit a jurisdiction's specific needs. In considering generic software, the assessor should determine

- System requirements
- The extent to which the software meets the agency's needs
- A timetable for implementation
- How modifications will be accomplished
- The level of vendor support
- Whether the source code can be obtained.

(See Standard on Contracting for Assessment Services [IAAO 2008].)

Horizontal generic software is more flexible, permitting the user to define file structures, relational table layout, input and output procedures, including form or format, and reports. Assessment offices with expertise in such software (which does not imply a knowledge of programming) can adapt it for

- Property (data) file maintenance
- Market research and analysis
- Valuation modeling and processing
- Many other aspects of assessment operations.

Horizontal generic software is inexpensive and flexible. However, it requires considerable customization to adapt it to local requirements. Provisions should be made for a sustainable process that is not overly dependent on a single person or resource.

6.4 Contracting for Appraisal Services

Reappraisal contracts can include mapping, data collection, data processing, and other services, as well as valuation. They offer the potential of acquiring professional skills and resources quickly. These skills and resources often are not available internally. Contracting for these services not only can allow the jurisdiction to maintain a modest staff and to budget for reappraisal on a periodic basis, but also makes the assessor less likely to develop in-house expertise. (See the *Standard on Contracting for Assessment Services* [IAAO 2008].)

6.5 Benefit-Cost Considerations

6.5.1 Overview

The object of mass appraisal is to produce equitable valuations at low costs. Improvements in equity often require increased expenditures.

Benefit-cost analysis in mass appraisal involves two major issues: policy and administration.

6.5.2 Policy Issues

An assessment jurisdiction requires a certain expenditure level simply to inventory, list, and value properties. Beyond that point, additional expenditures make possible rapid improvements in equity initially, but marginal improvements in equity diminish as expenditures increase. At a minimum, jurisdictions should budget to meet statutory requirements and the performance standards contained in the *Standard on Ratio Studies* (IAAO 2013) and summarized in Section 5.2.

6.5.3 Administrative Issues

Maximizing equity per dollar of expenditure is the primary responsibility of assessment administration. To maximize productivity, the assessor and managerial staff must effectively plan, budget, organize, and control operations and provide leadership. This must be accomplished within the

office's legal, fiscal, economic, and social environment and constraints (Eckert, Gloudemans, and Kenyon 1990, chapter 16).

7. Reference Materials

Reference materials are needed in an assessment office to promote compliance with laws and regulations, uniformity in operations and procedures, and adherence to generally accepted assessment principles and practices.

7.1 Standards of Practice

The standards of practice may incorporate or be contained in laws, regulations, policy memoranda, procedural manuals, appraisal manuals and schedules, standard treatises on property appraisal and taxation (see section 6.2). Written standards of practice should address areas such as personal conduct, collection of property data, coding of information for data processing. The amount of detail will vary with the nature of the operation and the size of the office.

7.2 Professional Library

Every assessment office should have access to a comprehensive professional library that contains the information staff needs. A resource library may be digital or physical and should include the following:

- Property tax laws and regulations
- IAAO standards
- Historical resources
- Current periodicals
- Manuals and schedules
- Equipment manuals and software documentation.

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INTRODUCTION

It is often said that the three most important factors in making a home buying decision are “location,” “location,” and “location.” Other than “location,” the single most-important factor is probably the size or “square footage” of the home. Not only is it an indicator of whether a particular home will meet a homebuyer’s space needs, but it also affords a convenient (though not always accurate) method for the buyer to estimate the value of the home and compare it to other properties.

Although real estate agents are not required by the Real Estate License Law or Real Estate Commission rules to report the square footage of properties offered for sale (or rent), when they do report square footage, it is essential that the information they give prospective purchasers (or tenants) be accurate. At a minimum, information concerning square footage should include the amount of *living area* in the dwelling. The following guidelines and accompanying illustrations are designed to assist real estate brokers in measuring, calculating and reporting (both orally and in writing) the *living area* contained in detached and attached single-family residential buildings. When reporting square footage, real estate agents should carefully follow these *Guidelines* or any other standards that are comparable to them, including those approved by the American National Standards Institute, Inc. (ANSI) which are recognized by the North Carolina Real Estate Commission as comparable standards.* Agents should be prepared to identify, when requested, the standard used.

* The following materials were consulted in the development of these *Guidelines*:
The *American National Standard for Single-Family Residential Buildings*;
Square Footage-Method for Calculating approved by the American National Standards Institute, Inc.;
House Measuring & Square Footage published by the Carolina Multiple Listing Services, Inc.;
and materials compiled by Bart T. Bryson, MAI, SRA, Mary L. D’Angelo, and Everett “Vic” Knight.

Real estate appraisers and lenders generally adhere to more detailed criteria in arriving at the *living area* or “gross living area” of residential dwellings. This normally includes distinguishing “above-grade” from “below-grade” areas, which is also required by many multiple listing services. “Above-Grade” is defined as space on any level of a dwelling which has *living area* and no earth adjacent to any exterior wall on that level. “Below-Grade” is space on any level which has *living area*, is accessible by interior stairs, and has earth adjacent to any exterior wall on that level. If earth is adjacent to any portion of a wall, the entire level is considered “below-grade.” Space that is “at” or “on grade” is considered “above-grade.”

While real estate agents are encouraged to provide the most complete information available about properties offered for sale, the *Guidelines* recognize that the separate reporting of “above-grade” and “below-grade” area can be impractical in the advertising and marketing of homes. For this reason, *real estate agents are permitted under these Guidelines to report square footage of the dwelling as the total “living area”* without a separate distinction between “above-grade” and “below-grade” areas. However, to help avoid confusion and concern, agents should alert purchasers and sellers that the appraisal report may reflect differences in the way *living area* is defined and described by the lender, appraiser, and the *North Carolina Building Code* which could affect the amount of *living area* reported.

Living area (sometimes referred to as “heated living area” or “heated square footage”) is space that is intended for human occupancy and is:

1. **Heated** by a conventional heating system or systems (forced air, radiant, solar, etc.) that are permanently installed in the dwelling — not a portable heater or fireplace — which generates heat sufficient to make the space suitable for year-round occupancy;
2. **Finished**, with walls, floors and ceilings of materials generally accepted for interior construction (e.g., painted drywall/ sheet rock or panelled walls, carpeted or hardwood flooring, etc.) and with a ceiling height of at least seven feet, except under beams, ducts, etc. where the height must be at least six feet four inches [*Note: In rooms with sloped ceilings (e.g., finished attics, bonus rooms, etc.) you may also include as living area the portion of the room with a ceiling height of at least five feet if at least one-half of the finished area of the room has a ceiling height of at least seven feet.*]; and
3. **Directly accessible from other living area** (through a door or by a heated hallway or stairway).

Determining whether an area is considered *living area* can sometimes be confusing. Finished rooms used for general living (living room, dining room, kitchen, den, bedrooms, etc.) are normally included in *living area*. For other areas in the dwelling, the determination may not be so easy. *For example, the following areas are considered living area if they meet the criteria (i.e., heated, finished, directly accessible from living area):*

- **Attic**, but note in the listing data that the space is located in an attic (Fig. 2). *[Note: If the ceiling is sloped, remember to apply the “ceiling height” criteria.]*

- **Basement (or “Below-Grade”)**, but note in the listing data that the space is located in a basement or “below-grade” (Fig. 1). *[Note: For reporting purposes, a “basement” is defined as an area below the entry level of the dwelling which is accessible by a full flight of stairs and has earth adjacent to some portion of at least one wall above the floor level. A full flight of stairs is a flight of stairs connecting two main floors where the ceiling height for the lower floor is at least seven (7) feet, except where ductwork provides clearance of at least 6’4”.]* (See illustration in Figure 1, page 8.)

- **Bay Window**, if it has a floor, a ceiling height of at least seven feet, and otherwise meets the criteria for *living area* (Fig. 2).

- **Bonus Room (e.g., Finished Room over Garage)** (Fig. 3). *[Note: If the ceiling is sloped, remember to apply the “ceiling height” criteria.]*

- **Breezeway** (enclosed).

- **Chimney**, if the chimney base is inside *living area*. If the chimney base is outside the *living area* but the hearth is in the *living area*, include the hearth in the *living area* but not the chimney base (Fig. 1).

- **Closets**, if they are a functional part of the *living area*.

- **Dormers** (Fig. 6).

- **Furnace (Mechanical) Room** Also, in order to avoid excessive detail, if the furnace,

water heater, etc. is located in a small closet in the *living area*, include it in *living area* even if it does not meet other *living area* criteria (Fig. 4).

- **Hallways**, if they are a functional part of the *living area*.

- **Laundry Room/Area** (Fig. 6).

- **Office** (Fig. 1).

- **Stairs**, if they meet the criteria and connect to *living area* (Fig. 1, 2, 3, 4, 5, 6). Include the stairway with the area from which it descends, **not to exceed the area of the opening in the floor**. If the opening for the stairway exceeds the length and width of the stairway, deduct the excess open space from the upper level area. Include as part of the lower level area the space beneath the stairway, regardless of its ceiling height.

- **Storage Room** (Fig. 6).

OTHER AREA

Note in the listing data and advise purchasers of any space that does not meet the criteria for *living area* but which contributes to the value of the dwelling; for example, unfinished basements, unfinished attics (with permanent stairs), unfinished bonus rooms and other unfinished rooms. Decks, balconies, porches, garages and carports should not be included in any category of finished or unfinished area.

HELPFUL HINTS

Concealed in the walls of nearly all residential construction are pipes, ducts, chases, returns, etc. necessary to support the structure’s mechanical systems.

Although they may occupy *living area*, to avoid excessive detail, do **not** deduct the space from the *living area*.

When measuring and reporting the *living area* of homes, be alert to any remodeling, room additions (e.g., an enclosed porch) or other structural modifications to assure that the space meets all the criteria for *living area*. **Pay particular attention to the heating criteria, because the heating system for the original structure may not be adequate for the increased square footage.** Although agents are not required to determine the adequacy of heating systems, they should at least note whether there are heat vents, radiators or other heat outlets in the room before deciding whether to include space as *living area*.

The square footage of unpermitted additions or improvements must be separately identified when making representations concerning square footage and brokers must inform prospective purchasers that there is no permit for the addition.

When an area that is not part of the *living area* (e.g., a garage) shares a common wall with the *living area*, treat the common wall as the exterior wall for the *living area*; therefore, the measurements for the living area will include the thickness of the common wall, and the measurements for the other area will not.

Interior space that is open from the floor of one level to the ceiling of the next higher level is included in the square footage for the lower level only. However, any area occupied by interior balconies, lofts, etc. on the upper level or stairs that extend to the upper level is included in the square footage for the upper level.

The amount of *living area* and “other area” in dwellings is based upon **exterior measurements** except for condominiums, which use interior measurements. A one-hundred-foot-long tape measure is recommended for use in measuring the exterior of dwellings, and a thirty-foot retractable tape for measuring interior and hard-to-reach spaces. A tape measure that indicates linear footage in “tenths of a foot” will greatly simplify your calculations. For best results, take a partner to assist you in measuring. But if you do not have someone to assist you, a screwdriver or other sharp tool can be used to secure the beginning end of the tape measure to the ground.

Begin at one corner of the dwelling and proceed with measuring each exterior wall. Double-check each measurement. **Round off your measurements to the nearest inch** (or tenth-of-a-foot if your tape indicates footage in that manner). Make a sketch of the structure. Write down each measurement as you go, and record it on your sketch. A clipboard and graph paper are helpful in sketching the dwelling and recording the measurements. You may also use electronic devices to create sketches. Be sure to print the electronic sketches for your records or save them in a manner that will enable you to print them for at least three years. Measure *living area* and “other area,” but identify them separately on your sketch. Look for offsets (portions of walls that “jut out”), and adjust for any “overlap” of exterior walls (Fig. 3) or “overhang” in upper levels (Fig. 5).

When you cannot measure an exterior surface (such as in the case of attics

and below-grade areas), measure the perimeter walls of the area from the inside of the dwelling. Remember to add **six inches** for each exterior wall and interior wall that you encounter in order to arrive at the exterior dimensions (Fig. 2, 3, 4, 6).

Measure all sides of the dwelling, making sure that the overall lengths of the front and rear sides are equal, as well as the ends. Then inspect the interior of the dwelling to identify spaces which cannot be included in *living area*. You may also find it helpful to take several photographs of the dwelling for later use when you return to your office.

CALCULATING SQUARE FOOTAGE

From your sketch of the dwelling, identify and separate *living area* from "other area." If your measurements are in inches (rather than tenths-of-a-foot), convert your figures to a decimal as follows:

1" = .10 ft.	7" = .60 ft.
2" = .20 ft.	8" = .70 ft.
3" = .25 ft.	9" = .75 ft.
4" = .30 ft.	10" = .80 ft.
5" = .40 ft.	11" = .90 ft.
6" = .50 ft.	12" = 1.00 ft.

Calculate the *living area* (and other area) by multiplying the length times the width of each rectangular space. Then add your subtotals and round off your figure for total square footage to the nearest **square foot**. Double-check your calculations. When in doubt, re-check them and, if necessary, re-measure the house.

ATTACHED DWELLINGS

If there is a common wall (i.e., a wall separating the subject property from an adjacent property), measure to the inside surface of the wall and add **six inches**. *[Note: In the case of condominiums, measure from inside surface to inside surface of the exterior walls. Do not include the thickness of exterior or common walls.]* Do not include any "common areas" (exterior hallways, stairways, etc.) in your calculations.

PROPOSED CONSTRUCTION

For proposed construction, your square footage calculations will be based upon dimensions described in blueprints and building plans. When reporting the projected square footage, be careful to disclose that you have calculated the square footage based upon plan dimensions. The square footage may differ in the completed structure. Once the structure is completed, do not rely on any calculations printed on the plans. The broker should measure and report the actual square footage of the completed structure.

AGENTS' RESPONSIBILITY

Real estate agents are expected to be able to accurately calculate the square footage of most dwellings. When reporting square footage, whether to a party to a real estate transaction, another real estate agent, or others, a real estate agent is expected to provide accurate square footage information that was compiled using these *Guidelines* or comparable standards. While an agent is expected to use reasonable skill, care and diligence when calculating square footage, it should be noted that the

Commission does not expect absolute perfection. Because all properties are unique and no guidelines can anticipate every possibility, minor discrepancies in deriving square footage are not considered by the Commission to constitute negligence on the part of the agent. Minor variations in tape readings and small differences in rounding off or conversion from inches to decimals, when multiplied over distances, will cause reasonable discrepancies between two competent measurements of the same dwelling. In addition to differences due to minor variations in measurement and calculation, discrepancies between measurements may also be attributable to reasonable differences in interpretation. For instance, two agents might reasonably differ about whether an addition to a dwelling is sufficiently finished under these *Guidelines* to be included within the measured living area. Differences which are based upon an agent's thoughtful judgment reasonably founded on these or other similar guidelines will not be considered by the Commission to constitute error on the agent's part. Deviations in calculated square footage of less than five percent will seldom be cause for concern unless a broker intentionally overstates the square footage.

As a general rule, the most reliable way for an agent to obtain accurate square footage data is by personally measuring the dwelling unit and calculating the square footage. It is especially recommended that *listing agents* use this approach for dwellings that are not particularly unusual or complex in their design.

As an alternative to personally measuring a dwelling and calculating

its square footage, an agent may rely on the square footage reported by other persons when it is reasonable under the circumstances to do so. Generally speaking, an agent working with a buyer (either as a buyer's agent or as a seller's agent) may rely on the listing agent's square footage representations except in those unusual instances when there is an error in the reported square footage that should be obvious to a reasonably prudent agent. For example, a buyer's agent would not be expected to notice that a house advertised as containing 2200 square feet of living area in fact contained only 2000 square feet. On the other hand, that same agent, under most circumstances, would be expected to realize that a house described as containing 3200 square feet really contained only 2300 square feet of living area. If there is such a "red flag" regarding the reported square footage, the agent working with the buyer should promptly point out the suspected error to the buyer and the listing agent. The listing agent should then verify the square footage and correct any error in the information reported.

It is also appropriate for an agent to rely upon measurements and calculations performed by other professionals with greater expertise in determining square footage. A new agent who may be unsure of his or her own calculations should seek guidance from a more experienced agent. As the new agent gains experience and confidence, he or she will become less reliant on the assistance of others. In order to ensure accuracy of the square footage they report, even experienced agents may wish to rely upon a competent state-licensed or state-certified appraiser or another agent with greater expertise in determining

square footage. For example, an agent might be confronted with an unusual measurement problem or a dwelling of complex design. The house described in Figure 8 in these *Guidelines* is such a property. When an agent relies upon measurements and calculations personally performed by a competent appraiser or a more expert agent, the appraiser or agent must use these *Guidelines* or other comparable standards and the square footage reported **must be specifically determined in connection with the current transaction**. An agent who relies on another's measurement would still be expected to recognize an obvious error in the reported square footage and to alert any interested parties.

Some sources of square footage information are by their very nature

unreliable. For example, an agent should **not** rely on square footage information determined by the property owner or included in property tax records. An agent should also **not** rely on square footage information included in a listing, appraisal report or survey prepared in connection with an earlier transaction.

In areas where the prevailing practice is to report square footage in the advertising and marketing of homes, agents whose policy is **not** to calculate and report square footage must disclose this fact to prospective buyer and seller clients before entering into agency agreements with them.

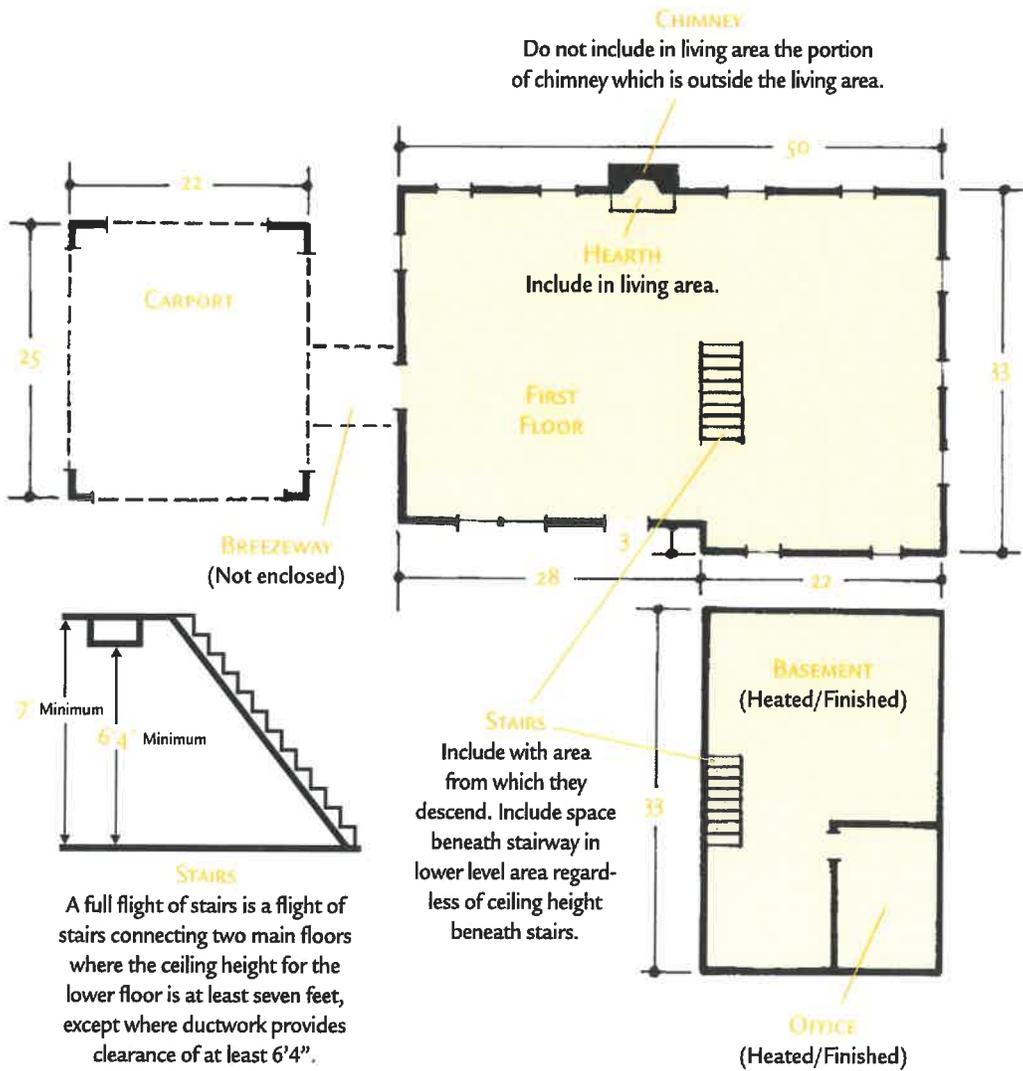
Brokers must retain for at least three years all sketches, calculations, photos and other documentation used and/or relied upon to determine square footage.

ILLUSTRATIONS

For assistance in calculating and reporting the area of homes, refer to the following illustrations showing the *living area* shaded. To test your knowledge, an illustration and blank “Worksheet” for a home with a more challenging floor plan has also been included. (A completed “Worksheet” for the Practice Floor Plan can be found on page 25.) In reviewing the illustrations, assume that for those homes with basements, attics, etc., the exterior measurements shown have been derived from interior measurements taking into account walls and partitions (*see page 4*). Where there is a common wall between *living area* and other area (*see page 4*), the measurements shown in the illustrations include the thickness of the common wall in *living area* except in the condominium example where wall thickness is not included.

ONE STORY WITH BASEMENT AND CARPORT

(Figure 1)



A full flight of stairs is a flight of stairs connecting two main floors where the ceiling height for the lower floor is at least seven feet, except where ductwork provides clearance of at least 6'4".

TWO STORY WITH OPEN FOYER AND FINISHED ATTIC

(Figure 2)



ATTIC

Add 1 ft. (6" for each exterior side wall) to inside measurements.
 Thus, 19' inside measurement equals 20' exterior measurement.
 In this example, do NOT add for front and rear walls since the allowable square footage (5' ceiling height) does not extend to the kneewalls.

STAIRWAY WITH OPEN AREA

1. Calculate area of open space ($10' \times 12' = 120$ sf).
2. Subtract from second floor area ($1,200 - 120 = 1,080$ sf).
3. Add stairway ($6' \times 4' = 24 + 1,080 = 1,104$ sf).

3RD FLOOR ATTIC (Heated/Finished)



In rooms with sloped ceilings, do not include any area with a ceiling height of less than 5 ft.



BAY WINDOW (Floored)

Include in living area if it is floored and has ceiling height of at least 7 ft.

1. Calculate area of triangles ($3' \times 4' \div 2 = 6$ sf $\times 2 = 12$ sf).
2. Add area of triangles (12 sf) to remaining area of bay window ($6' \times 4' = 24$ sf) = 36 sf.

TWO STORY WITH OPEN FOYER AND FINISHED ATTIC WORKSHEET

LIVING AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
1st Floor	40 x 30	1,200	
Bay Window	See previous pg.	36	1,236
2nd Floor	40 x 30	1,200	
Opening around stairs	- 10 x 12	- 120	
	4 x 6	+ 24	1,104
Fin. Attic	20 x 15		<u>300</u>
Total			2,640

DIMENSIONS OF CARPORTS, DECKS, STORAGE SHEDS, GARAGES, ETC.,
CAN BE INCLUDED IN MLS AND OTHER ADVERTISING, BUT CANNOT BE INCLUDED IN THE LIVING AREA.

REPORT: TWO-STORY DETACHED HOUSE WITH 2,640 SQUARE FEET OF LIVING AREA
OF WHICH 300 SQUARE FEET ARE IN A FINISHED ATTIC.

TWO STORY WITH "BONUS ROOM" OVER GARAGE

(Figure 3)



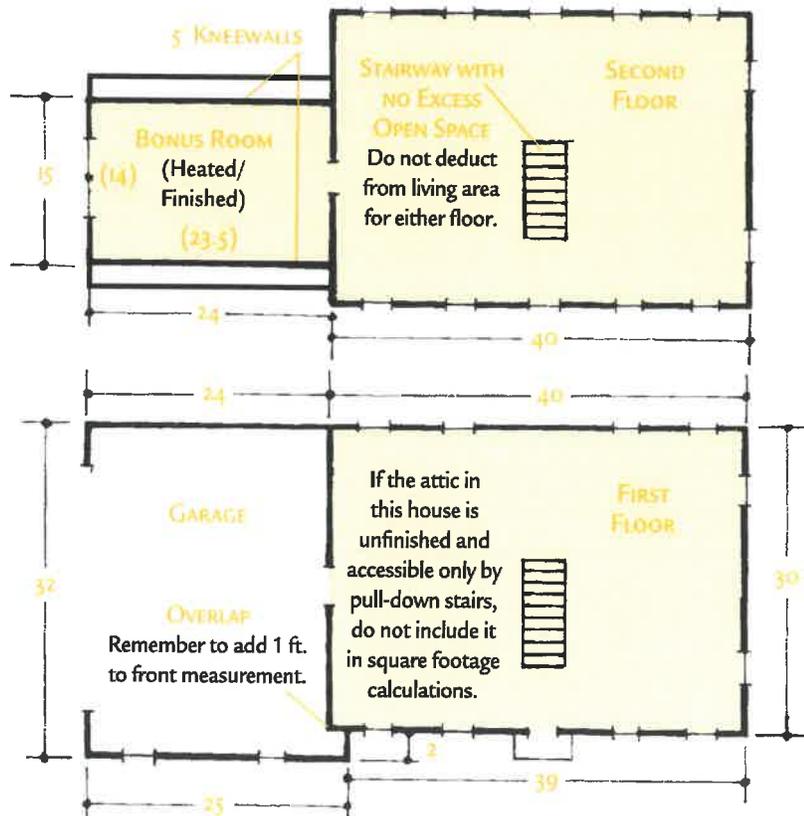
BONUS ROOM

If the "Bonus Room" is accessible from living area through a door, hallway or stairway, include in living area; otherwise, report as other area.

Add 6" to inside measurements for each exterior wall.

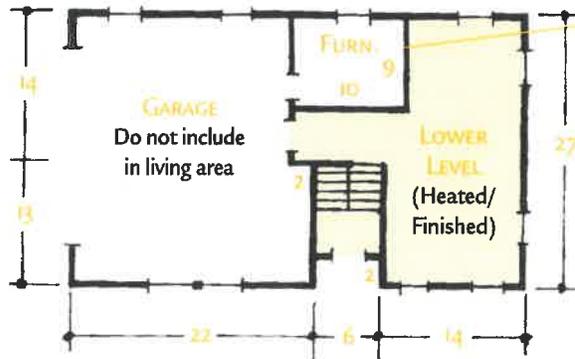
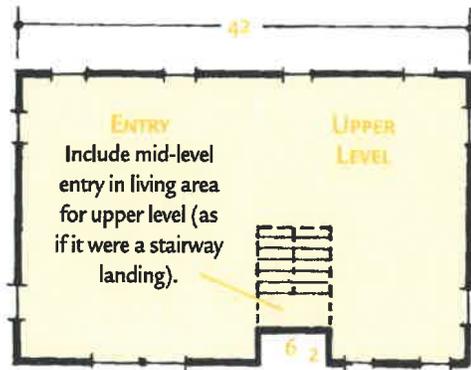
Thus, 14' x 23.5' inside measurement equals 15' x 24' exterior measurements.

In rooms with sloped ceilings, do not include any space with a ceiling height of less than 5 ft. in height.



SPLIT FOYER

(Figure 4)



FURNACE ROOM
(Unfinished)
Do not include in living area unless it is heated, finished and accessible from living area. If furnace is located in a closet in living area, include in living area.

SPLIT FOYER WORKSHEET

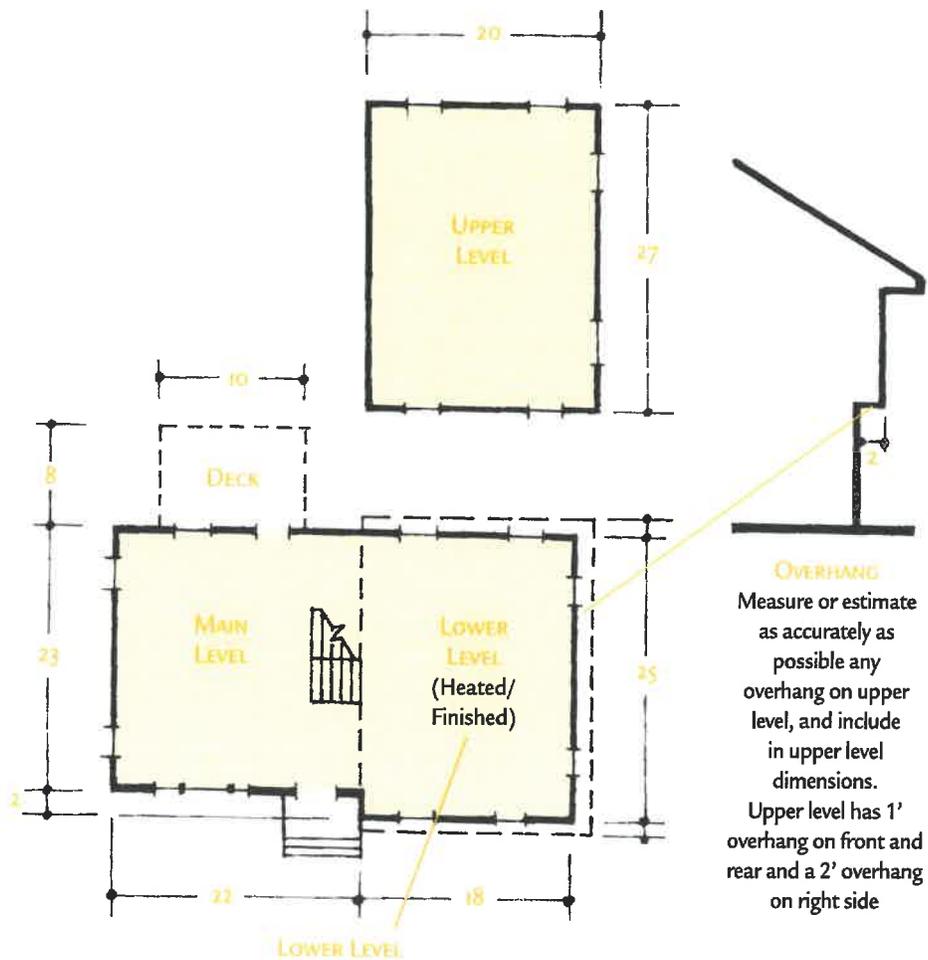
LIVING AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
Upper Level	27 x 42	1,134	
Open area above entry	- 6 x 2	- 12	1,122
Lower Level	22 x 27	594	
Front porch	- 6 x 2	- 12	
Portion of garage	- 13 x 2	- 26	
Furnace room	- 9 x 10	- 90	<u>466</u>
Total			1,588
OTHER AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
Furnace Room	9 x 10		90

DIMENSIONS OF CARPORTS, DECKS, STORAGE SHEDS, GARAGES, ETC.,
CAN BE INCLUDED IN MLS AND OTHER ADVERTISING, BUT CANNOT BE INCLUDED IN THE LIVING AREA.

REPORT SPLIT-FOYER DETACHED HOUSE WITH 1,588 SQUARE FEET OF LIVING AREA
AND 90-SQUARE-FOOT FURNACE ROOM.

SPLIT (TRI-) LEVEL WITH OVERHANG

(Figure 5)

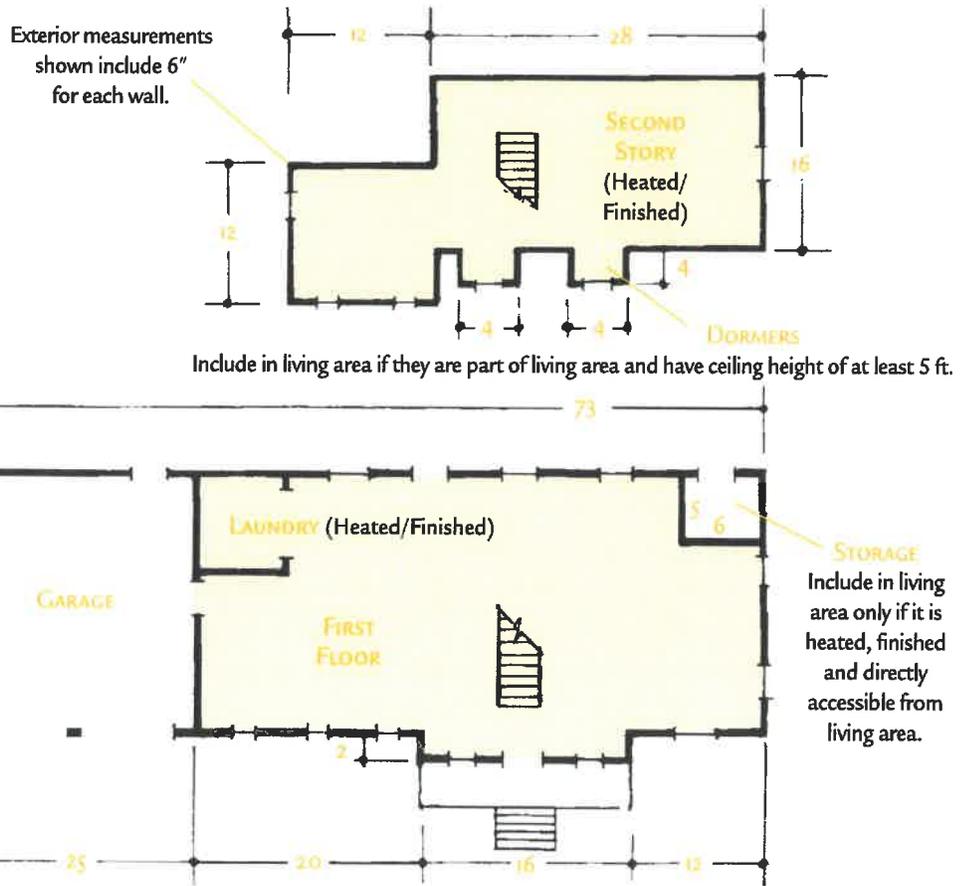


OVERHANG
Measure or estimate as accurately as possible any overhang on upper level, and include in upper level dimensions. Upper level has 1' overhang on front and rear and a 2' overhang on right side

Report this as "lower level" rather than "basement" because it is not accessible by a full flight of stairs.

ONE AND ONE-HALF STORY

(Figure 6)



ONE AND ONE-HALF STORY WORKSHEET

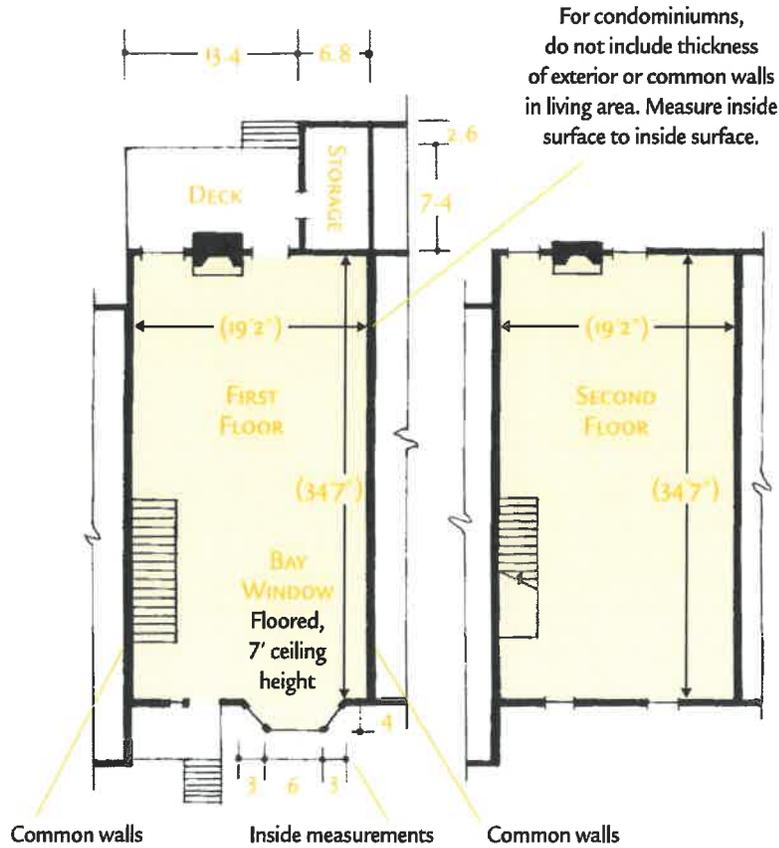
LIVING AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
1st Floor	48 x 22	1,056	
	16 x 2	+ 32	
Storage room	- 5 x 6	- 30	1,058
2nd Floor	16 x 28	448	
Dormer	4 x 4	+ 16	
Dormer	4 x 4	+ 16	
	12 x 12	+ 144	<u>624</u>
Total			1,682
OTHER AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
Storage	5 x 6		30

DIMENSIONS OF CARPORTS, DECKS, STORAGE SHEDS, GARAGES, ETC.,
CAN BE INCLUDED IN MLS AND OTHER ADVERTISING, BUT CANNOT BE INCLUDED IN THE LIVING AREA.

REPORT ONE AND ONE-HALF STORY DETACHED HOUSE WITH 1,682 SQUARE FEET OF LIVING AREA
AND A 30-SQUARE-FOOT STORAGE ROOM.

CONDOMINIUM

(Figure 7)



CONDOMINIUM WORKSHEET

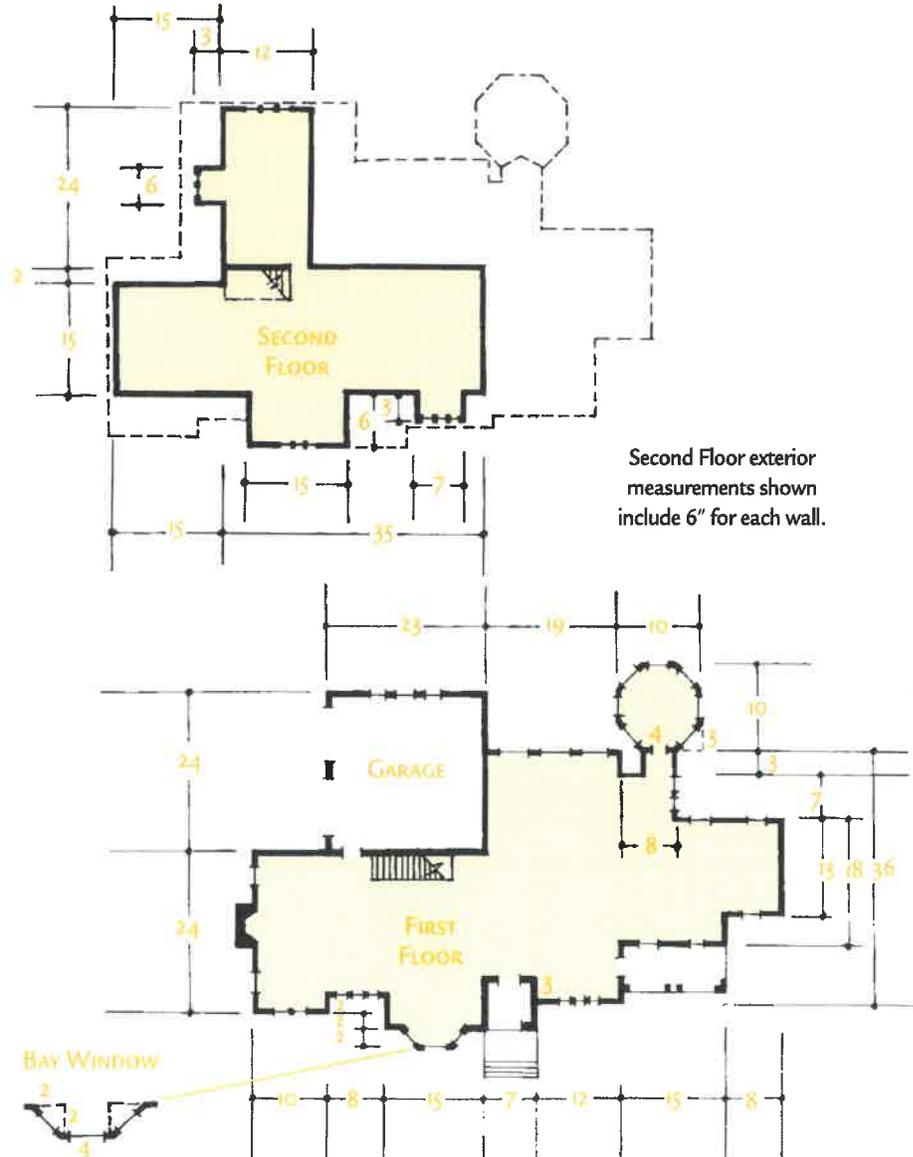
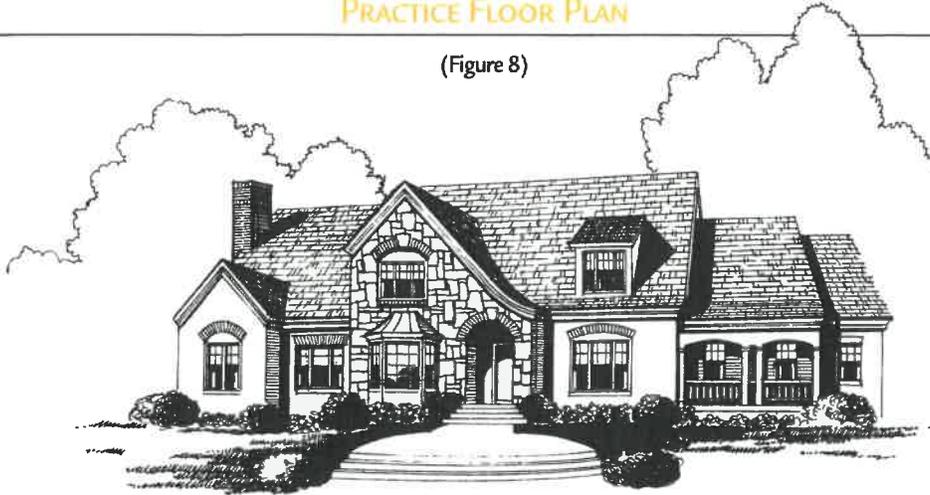
LIVING AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
1st Floor	34.6 x 19.2	664.3	
Bay Window	.5 (3x4)+.5 (3x4) +(6x4)	36	700
2nd Floor	34.6 x 19.2	664.3	664
Total			1,364
OTHER AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
Storage	10 x 6.8		68

DIMENSIONS OF CARPORTS, DECKS, STORAGE SHEDS, GARAGES, ETC.,
CAN BE INCLUDED IN MLS AND OTHER ADVERTISING, BUT CANNOT BE INCLUDED IN THE LIVING AREA.

REPORT TWO-STORY CONDOMINIUM WITH 1,364 SQUARE FEET OF LIVING AREA
AND A 10' X 6.8' STORAGE ROOM.

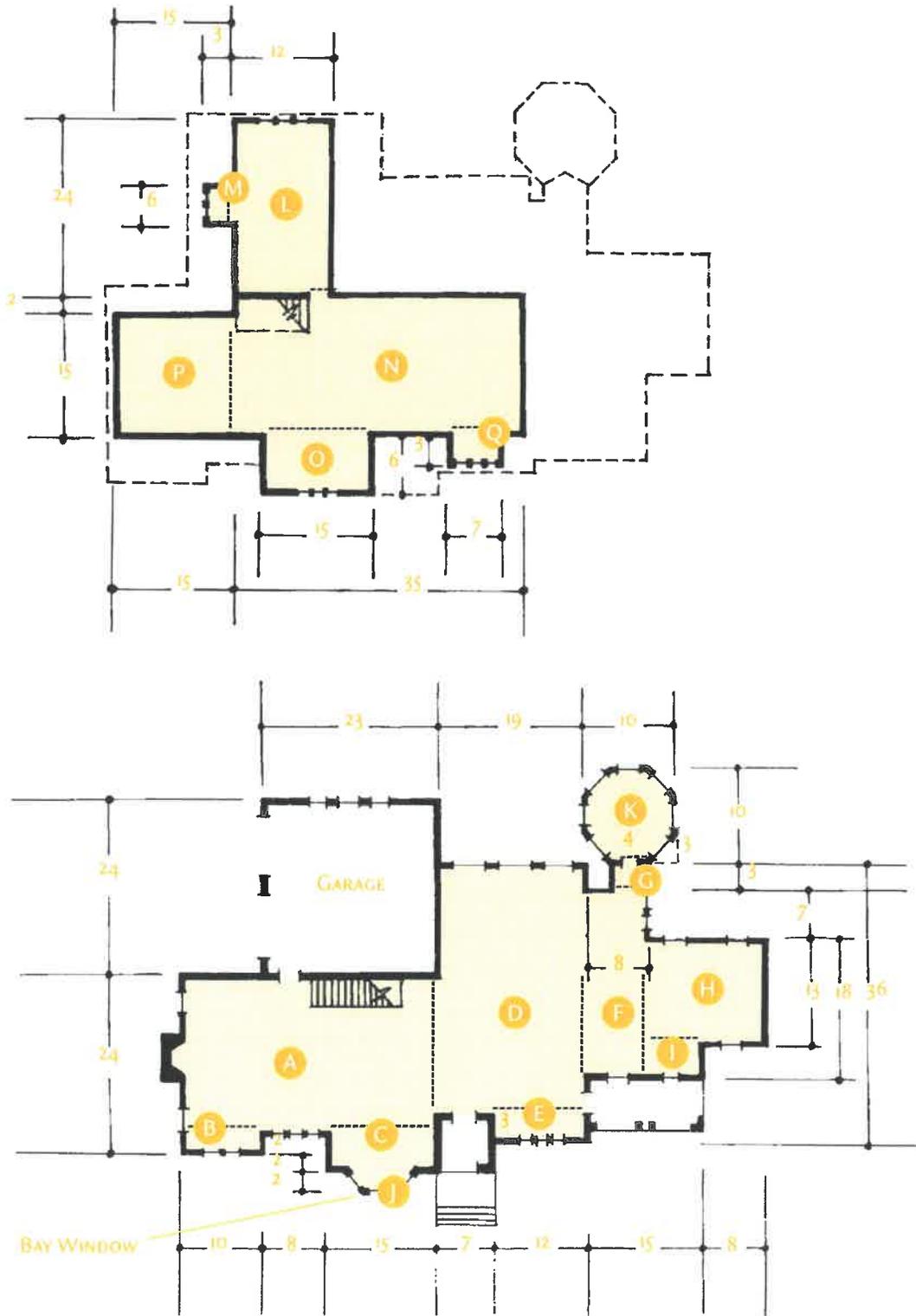
PRACTICE FLOOR PLAN

(Figure 8)



PRACTICE FLOOR PLAN

(Zoned to facilitate calculations)



PRACTICE FLOOR PLAN WORKSHEET

LIVING AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
1st Floor A	22 x 33	726	
1st Floor B	2 x 10	20	
1st Floor C	4 x 15	60	
1st Floor D	19 x 33	627	
1st Floor E	3 x 12	36	
1st Floor F	8 x 25	200	
1st Floor G	4 x 3	12	
1st Floor H	15 x 13	195	
1st Floor I	7 x 5	35	
Bay Window J		12	
Oct. Window K		82	2,005
2nd Floor L	24 x 12	288	
2nd Floor M	3 x 6	18	
2nd Floor N	17 x 35	595	
2nd Floor O	15 x 6	90	
2nd Floor P	15 x 15	225	
2nd Floor Q	3 x 7	21	1,237
Total			3,242
OTHER AREA			
AREA	DIMENSIONS	SUBTOTAL	TOTAL
Garage	24 x 23		

DIMENSIONS OF CARPORTS, DECKS, STORAGE SHEDS, GARAGES, ETC.,
CAN BE INCLUDED IN MLS AND OTHER ADVERTISING, BUT CANNOT BE INCLUDED IN THE LIVING AREA.

REPORT: ONE AND ONE-HALF STORY DETACHED HOUSE WITH 3,242 SQUARE FEET OF LIVING AREA.

NOTES



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NORTH CAROLINA REAL ESTATE COMMISSION

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