

**Summary Report of a Mass Appraisal of Properties
Jasper County Appraisal District
Tax Year 2019
Pursuant to USPAP Standards Rule 6-8
2018-2019 Uniform Standards of Professional Appraisal Practice
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Jasper County Appraisal District**

Introduction

The Jasper County Appraisal District (JCAD) is a political subdivision of the State of Texas. The provisions of the Texas Property Tax Code govern the legal, statutory, and administrative requirements of the appraisal district. A six member Board of Directors, appointed by taxing units within the appraisal district, constitutes the district's governing body. The chief appraiser, appointed by the board of directors, is the chief administrator of the appraisal district.

Scope

Scope of work is the type and extent of research and analyses that an appraiser performs. Scope of work includes, but is not limited to: the extent to which the property is identified; the extent to which tangible property is inspected; the type and extent of data research; and the type and extent of analyses applied to arrive at opinions or conclusions.

The JCAD is responsible for property tax appraisals and exemption administration of approximately 40,000 items of property for eighteen taxing jurisdictions covering an area of about 970 square miles. The appraisal district's general responsibilities are to discover, list and appraise the subject properties in the following major property types: single family residential, rural residential, multi-family residential, rural miscellaneous improvements, lots, acreage, commercial, business personal property and complex properties consisting of industrial, utility, and oil and gas reserves. (The complex properties are appraised for the JCAD by contract with Capitol Appraisal Group LLC and are addressed in separate sections of this mass appraisal summary report.)

The scope of work may be defined generally as follows:

1. Identifying properties to be appraised through physical inspection or by other reliable means of identification, including deeds or other legal documentation, aerial photography, land based photographs, surveys, maps and property sketches;
2. Identifying and updating relevant characteristics of each property in the appraisal records;
3. Defining market areas in the district;
4. Identifying property characteristics that affect property value in each market area, including:
 - a. The location and market area of the property;
 - b. Physical attributes of property, such as size, age, and condition;
 - c. Legal and economic attributes; and
 - d. Easements, covenants, leases, reservations, contracts, declarations, special assessments, ordinances, or legal restrictions;

5. Developing an appraisal model that reflects the relationships among the property characteristics affecting the value in each market area and determines the contribution of individual property characteristics;
6. Applying the conclusions reflected in the model to the characteristics of the properties being appraised; and
7. Reviewing the appraisal results to determine value.

The scope of work is described in detail in the Jasper CAD Reappraisal Plan for the 2019 and 2020 Tax Years which is attached to this report by reference as well as in other sections of this report. The scope of work is consistent with 1) the actions that appraisers in the JCAD's peer group (other appraisers who have expertise and competency in a similar type of assignment) would perform in making the same type of appraisals and 2) the expectations of parties who are regularly intended users for similar assignments.

Legal Requirements

This mass appraisal is made in accordance with provisions of the Texas Property Tax Code. Specifically, under Sec. 25.18 of the Texas Property Tax Code, each appraisal district is required to implement a plan to update appraised values for real estate at least once every three years.

Administrative Requirements

This mass appraisal is conducted in accordance with the JCAD reappraisal plan for tax years 2019 and 2020 as adopted by the Jasper County Appraisal District Board of Directors.

The Jasper County Appraisal District, in accordance with the reappraisal plan adopted by the Board of Directors, reappraises all property in the district every three years. The reappraisal year is a complete appraisal of all denoted properties in the district. The non-reappraisal year is used to add new construction, new subdivisions, new business personal property, and new oil and gas leases, adjust for changes in property characteristics that affect value, and adjust the previous year's values on individual properties, property categories or market areas where the level of appraisal and/or uniformity of appraisal is unacceptable. However, the following property types are reappraised annually: oil and gas reserves, business personal property, industrial real property, industrial personal property, utilities, special inventory residential property, and properties qualified for agricultural use or timber use productivity valuation. Oil and gas reserves, industrial properties, and utilities are valued through a professional services contract with the district's valuation engineer, Capitol Appraisal Group LLC. All other properties are valued on an in-house basis by the appraisal district staff.

Tax Year 2019 is a complete reappraisal year. The residential and land schedules were updated and applied to all applicable properties in the District.

The district follows the standards of the International Association of Assessing Officers (IAAO) regarding its appraisal practices and procedures. Additionally, the appraisal district

subscribes to the standards promulgated by the Appraisal Foundation known as the Uniform Standards of Professional Practice.

Appraisal Resources

The JCAD appraisal staff consists of sixteen persons. The chief appraiser is primarily responsible for the overall planning, organizing, staffing, coordinating, and controlling of district operations. Appraisals are performed by the chief appraiser, an appraisal supervisor, and 4 appraisers, all of whom who are registered with the Texas Department of Licensing and Regulation. Other personnel include an office manager, three GIS/land/deed personnel, and three support personnel. Three of the above personnel are designated as Registered Professional Appraisers. In order to be aware of, understand and correctly employ recognized methods and techniques necessary to produce a credible mass appraisal, the appraisal staff stays abreast of current trends through review of published materials, attendances at conferences, seminars, in-house/in-service training, and continuing education sessions.

Data Collection and Verification

The district is responsible for developing and maintaining approximately 40,000 property records. This data includes property characteristic data such as land size, square footage of improvements, and quality of construction as well as ownership and exemption information.

Field appraisers are assigned areas throughout the appraisal district to conduct property inspections on new and existing real property and business personal property in an annual field effort. The appraisers are trained to collect and record a common set of data characteristics in accordance with established guidelines and procedures. The data gathered during the field inspection is recorded on a field card and it is later entered into Centurion (the districts' computer assisted mass appraisal software application) and maintained there. Quality control is conducted at support and data entry levels. Data that is not fully or accurately reported is referred to the appraiser who conducted the field inspection for clarification.

Other sources for data include, but are not limited to the following: independent fee appraisers, realtors, the deed records of the Jasper County Clerk's Office, the building permit records of the cities of Jasper and Kirbyville, the permit records of Jasper County, 911 addressing information, utility connections information, other public records, renditions, information furnished by property owners, vendor supplied vehicle registration lists, the appraisal records, maps, plats of the JCAD.

Sales data is collected, adjusted, analyzed, and maintained according to IAAO procedures. Sales files contain property characteristic data that are contemporaneous with the date of sale. Geographic data is contained in as complete a set of cadastral maps as possible reflecting current detail and accuracy. Data collection and verification procedures are reviewed periodically.

Information

The JCAD maintains the district's data processing facility and software applications on an in-house basis. The district's applications are maintained on Dell servers and operate under a hierarchical non-relational database with a local network of general purpose PCs. The district's software vendor, Capitol Appraisal Group LLC, develops and maintains software (Centurion) for the district.

Purpose and Intended Use of Appraisal

The purpose of this mass appraisal report is to estimate the market value of taxable real property and personal property in the JCAD. The intended use of the appraisal is to provide an accurate and equitable valuation on which property tax levies will be based. This report is prepared for the use of the taxing units and property owners of the appraisal district.

Assumptions and Limiting Conditions

While the appraisal district has taken reasonable steps to secure adequate funding, fiscal constraints do impact the mass appraisal process by limiting the resources available to perform the appraisal; therefore, it was not possible to perform physical inspections of all properties or to conduct final individual reviews of all properties. When physical inspections of improved properties were conducted, they were done on an exterior basis only. It is assumed that interior conditions are consistent with exterior conditions as observed. Where an exterior inspection is not possible, physical characteristics information may be obtained from reliable third party sources in forms such as photographs and multiple listing data. Final reviews were done on a limited sample basis.

The appraisal district attempts to collect as much sales data as possible; however, there is an inadequate number of sales available. The limited number of sales impairs the appraisal district's ability to conduct reliable sales ratio studies and apply the results of those studies in generally accepted mass appraisal methodologies.

The growing legal and administrative requirements relating to the operations of the appraisal district also impact the appraisal districts fundamental duties of discovering, listing and valuing property. Furthermore, this mass appraisal has been made under the following general assumptions and limiting conditions:

The appraisals were prepared exclusively for ad valorem tax purposes.

Legal descriptions and other property characteristic data upon which the appraisals are based are correct.

Title to the properties is good and merchantable.

No liability is assumed for matters of a legal nature.

All data and information provided to the appraiser is correct and accurate.

Unless otherwise stated, existence of hazardous materials or other adverse environmental conditions are not considered.

Assumptions made in the report are based on the best knowledge and judgment of the appraiser and are believed to be typical of the market.

Sales transactions are primarily validated through questionnaires to buyers and sellers. In the absence of such confirmation, sales data obtained from other sources was considered reliable.

All properties are appraised as if free and clear of any or all liens or encumbrances. All properties are appraised as though under responsible and competent management.

Any plots, plans, and drawings are correct and are included in this mass appraisal only to assist in visualizing the property and should not be construed as surveys or engineering reports unless otherwise specified.

No responsibility is assumed for hidden or unapparent conditions in the property that may affect its value.

The appraisers developing these appraisals are not required to give testimony or attendance in court by reason of the appraisals, unless directed by, employed by, and provided legal counsel by the appraisal district.

Legal Description of Subject Property

The legal descriptions identifying the individual properties subject to this appraisal report are incorporated at length in the 2018 appraisal records of the Jasper County Appraisal District. These records are available for inspection during regular business hours at the appraisal district office at 137 North Main Street in Jasper, Texas.

Property Rights to be Appraised

The properties are appraised in fee simple interest, as if under absolute ownership unencumbered by any other interest or estate as required by Sec. 25.06 Texas Property Tax Code and case law history. Fractional interests are appraised in fee simple for the whole property and are divided proportionately based on the pro-rata interests.

Definition of Value

Market value is defined in Sec. 1.04 (7) Texas Property Tax Code as follows:

"Market value" means the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:

1. exposed for sale in the open market with a reasonable time for the seller to find a purchaser;
2. both the seller and the purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use; and
3. both the seller and purchaser seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.

In regard to personal property, Sec. 1.04 (5) defines personal property as"... personal property that can be seen, weighed, measured, felt or otherwise perceived by the senses but does not include a document or other perceptible object that constitutes evidence of a valuable interest, claim, or right and has negligible or no intrinsic value." Generally, business personal property consists of tangible personal property owned by a business or individual for the production of income.

Sec 23.01 (c) requires that the market value of a residence homestead be determined solely on the basis of the current use of the property regardless of its highest and best use.

Sec. 23.01 (b) and (c) prohibits an increase in appraised value of a property where the preceding year's value was established by an appraisal review board, an arbitrator or a court under certain circumstances.

Sec. 23.12 d e f i n e s the market value of an inventory as the price for which it would sell as a unit to a purchaser who would continue the business and includes residential real property and personal property inventories.

Secs. 23.121, 23.124, 23.1241, and 23.127 require a special inventory valuation for certain inventories of motor vehicles, vessels and outboard motors, heavy equipment and retail manufactured housing.

Sec. 23.18 requires minimal valuation of property owned by a non-profit homeowners' organization for the benefit of its members.

Sec.23.21 requires appraisals to consider certain governmental restrictions on low income housing rents.

Sec. 23.24 prohibits separately appraising personal property that is already included in the appraisal of real property for which the income approach to value was used.

Special appraisal provisions are required as follows: 1) Agricultural land Sec. 23.41; 2) Open space land Sec.23.52; 3) Timberland Sec. 23.73; 4) Restricted timberland Sec.23.9803

Sec. 23.83 requires special appraisal of restricted land.

These sections require jurisdictional exceptions to Standards Rules 6-2 of the Uniform

Limitation of Appraisal Increases on Qualified Residence Homesteads

Under Sec. 23.23 of the Texas Property Tax Code, certain residence homesteads are eligible to receive a limitation on the amount the appraised value of the property may increase from one year to the next. The limitation takes effect on January 1 of the tax year following the first year the property owner qualifies for any homestead exemption and expires on January 1 of the first tax year that neither the owner nor the owner's spouse qualifies for a homestead exemption.

The appraised value of a qualified residence homestead may not exceed the lesser of:

1. The market value of the property for the most recent year that the property was determined by the appraisal office; or
2. The sum of (a) 10% of the appraised value of the property for the preceding tax year (b) the appraised value of the property for the preceding tax year; and (c) the market value of all new improvements to the property.

The homestead cap is administered according to the JCAD guidelines for determining and calculating increases in value to residential homesteads subject to the homestead cap.

This section requires a jurisdictional exception to Standards Rules 6-2 of the Uniform Standards of Professional Appraisal Practice 2018-2019.

Effective Date of Appraisal

The effective date of this mass appraisal is January 1, 2019, and, as such, all appraisals are retrospective in nature. In regard to business personal property, some inventories may qualify for appraisals as of September 1 in accordance with Sec. 23.12, Texas Property Tax Code.

Preliminary Analysis

Pilot studies are utilized to test proposed values, procedures and models that will be in place during a reappraisal. A limited number of properties are selected to determine whether schedules, factors or adjustments are working properly before the new values are applied to all properties at large.

Area and Market Analysis

Data concerning construction costs and trends, sales prices, availability of properties, and overall real estate market conditions are collected from various private and public sources.

The subject properties are located in a region known as the Pineywoods of Deep Southeast East Texas. Increasing growth in local and regional economies in the greater Golden

Triangle (Beaumont) area to the south, the Angelina County (Lufkin) area to the northwest have contributed to a strong demand for real estate within the appraisal district.

Major sources of employment include state and local government and manufacturing facilities.

The city is largely developed with residential properties ranging from older, modest frame homes to newer custom built homes. The downtown central business district is stable and a limited amount of new commercial development is occurring on the eastern edge of town.

Generally, the overall character and nature of Jasper County can best be described as rural. The predominant land uses tend toward cattle grazing, hay production, timber production and recreation. The areas of the county are characterized by a relatively denser population, rural subdivisions, and smaller tracts of land. Rural acreage tracts range from largely native tracts of woods and pasture to highly improved properties. Likewise, residences range from modest houses to luxury type homes.

Demand for residential properties in both Jasper and the rural areas of the county are generally stable with relatively low interest rates and ample financing available for qualified buyers. Rural accessible and improved acreage tracts of land remains relatively strong. Occupancy rates in multi-family units are stable. Commercial property for sale and rents and occupancy rates appear to be amply available but stable. It appears that many commercial properties will continue to be owner used rather than held for speculative development.

There is no zoning within Jasper County. There is no indication that additional land use regulations will be implemented in 2019.

Sales data used is for sales of property within the JCAD and for the period January 1, 2018 thru April 1, 2019. However, Sec. 23.013 allows consideration of sales that have occurred within 24 months of the appraisal date.

Market Area Analysis

Market area analysis involves the examination of how physical, economic, governmental, and social forces and other influences affect property values. The effects of these forces are used to identify, classify, and organize properties into smaller groups of properties known as neighborhoods.

The first step in market area analysis is to identify a group of properties that share certain common traits. A market area for analysis purposes is a grouping of properties where the physical, economic, governmental and social forces acting on the properties are generally uniform. Once a market area has been identified, the next step is to delineate its boundaries. Some of the factors considered include, but are not limited to, location, land use, building type, sales price range, quality of construction and conditions of improvements, and square footage of living area. Analyses have been made to note the degree of similarity in these factors and identify points where these characteristics change and note physical and other characteristics that coincide with these points so that market areas may be delineated. Finally, market area

factors are applied to the delineated properties to appropriately adjust for forces influencing value within the market area.

Part of market area analysis is the consideration of discernible patterns of growth that will influence an area's individual market. Few areas are fixed in character. Areas may be characterized as being in a stage of growth, stability or decline. During the growth stage, there is construction and development. In the period of stability, older areas maintain their desirability due to the stability of the residential character. During the period of decline there is a diminished desirability and the general property use may begin changing to other uses.

Market area delineations and factors are periodically reviewed to determine if they continue to be warranted.

Highest and Best Use Analysis

The highest and best use of property is the reasonable and probable use that supports the highest present value as of the date of the appraisal. The highest and best use must be physically possible, legal, financially feasible, and maximally productive.

An analysis of highest and best use of the subject properties indicates that generally the highest and best use of the property is considered to be the current use. In particular, the highest and best use of residential property is normally its current use. This is due somewhat to the fact that residential usage, through deed restrictions and zoning, precludes other land uses. Additionally, there is virtually no transition to commercial use, and demand for residential properties is sufficiently strong that properties in residential use remain in that use.

Sec 23.01 (c) requires that the market value of a residence homestead be determined solely on the basis of the current use of the property regardless of its highest and best use. As previously mentioned, this provision requires a jurisdictional exception to Standards Rules 6-2 of the Uniform Standards of Professional Appraisal Practice 2017-2018.

Generally, the highest and best uses of rural acreage are for 1) timberland use; agricultural use 2) recreational use; 3) interim use as farm and ranch land with a future highest and best use of being divided into smaller tracts for sale; and 4) rural homesites.

The highest and best use of business personal property is normally its current use.

For improved properties, highest and best use is evaluated as improved and as if the site were still vacant. Highest and best use of the site as though vacant is that use, among all reasonable, alternative uses, that yields the highest present land value after payments are made for labor, capital, and coordination. The highest and best use of the site as though vacant is based on the assumption that the land is vacant or can be made vacant by demolishing improvements. The highest and best use as improved is the use that should be made of a property as it exists. An existing property should be renovated or retained as-is so long as it continues to contribute to the total market value of the property, or until the return from a new improvement would more than offset the cost of demolishing the existing building and constructing a new one.

Periodically the appraisal district checks for changes in highest and best use of properties in transitional areas.

Time Adjustments

A study of resold properties is conducted annually to determine if adjustments for time are necessary or appropriate. There were an insufficient number of resold properties available to base a time adjustment on this year; therefore, no adjustments for time were deemed necessary or appropriate.

Financing Adjustments

Financing of sales is analyzed and the effects of non typical financing on sales prices are identified and their contribution to higher values or negative influence on values is appropriately adjusted.

Model Specifications for Vacant Land

Land models are specified by the sales comparison method as follows:

1. Rural acreage tracts are classified into different groups based on 1) Location; 2) Physical characteristics; 3) Acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre basis. Values are modified by road factors and may be further modified for shape, topography, or other factors.
2. Subdivision acreage tracts are classified by neighborhood and acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre basis and may be further modified for shape, topography, or other factors.
3. Lots are classified by neighborhood and front footage or square footage. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a front foot basis; acreage, or square foot basis. Land values may be further modified on the basis of shape, size, topography, and other factors.

Market Areas for Vacant Land

A market area analysis, as described above, is conducted to identify groups of properties where the factors affecting value are generally similar. Then, the delineated properties are appropriately adjusted for forces influencing value within the market area.

Summary of Models for Vacant Land

The following formula describes the models used for vacant land:

$$\text{ASPCP IU} = \text{PU}$$

$$\text{Then } \text{MV} = \text{PU} \times \text{SU}$$

Where:

ASPCP	=	Adjusted sales prices of comparable properties
U	=	Unit of comparison, (square foot, acre, front foot, etc.)
PU	=	Price per unit of comparison
ASPU	=	Adjusted sales price per unit of comparison
SU	=	Subject property's number of units of comparison

Calibration of Model for Vacant Land

Calibration of the model for vacant land involves adjusting sales prices of comparable prices to reflect the individual characteristics of the subject property.

Specification of Models for Single Family/Rural Residential

The models for single family residential and rural residential properties specify the cost approach. The cost approach is based on the principle of substitution: an informed buyer will pay no more for an improved property than the price of acquiring a vacant site and constructing a substitute building of equal utility, assuming no costly delays in construction.

Land models are specified by the sales comparison method as follows:

1. Rural acreage tracts are classified into different groups based on 1) Location; 2) Physical characteristics; 3) Acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre basis. Values are modified by road factors and may be further modified for shape, topography, or other factors.
2. Subdivision acreage tracts are classified by neighborhood and acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre basis and may be further modified for shape, topography, or other factors.
3. Lots are classified by neighborhood and front footage or square footage. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a front foot basis or square foot basis. Land values may be further modified on the basis of shape, size, topography, and other factors.

For residential properties, improvements are stratified into similar groups since there is a different market for each group. Specifically, properties are classified by the following characteristics: 1) Exterior wall cover---brick veneer or frame; 2) Quality of construction based on typical building specifications for each class; 3) Square footage of living area.

Replacement cost new (RCN) for living area is expressed in terms of cost per square foot. Building component cost for items in excess of the base cost for a class, such as fireplaces or bathrooms, are expressed in a lump sum basis. The RCN for building additives such as CHCA, garages and porches are expressed in terms of square foot cost based on a percentage of the base cost for the living area. Other structures such as outbuildings are expressed on a per square foot basis or on a lump sum contributory basis. RCN as specified by Marshall & Swift for different levels of quality of construction, exterior characteristics and different sizes is determined. A local modifier is determined by analyzing a group of sold properties consisting of new construction or relatively new construction and then applied to the Marshall & Swift indicated costs. The schedule costs may be overridden to account for atypical features or characteristics not adequately addressed by the benchmark cost system.

Depreciation for Single Family/Rural Residential

Depreciation is the loss in value from the replacement cost of an improvement due to physical deterioration, functional obsolescence and economic obsolescence.

JCAD's residential depreciation tables are based on an age-life method of depreciation that uses effective age and economic life. Effective age is the age indicated by the condition and utility of a structure. Effective age will not always be the same as actual age. Structures with better than average maintenance, remodeling or modernization will have an effective age less than the actual age. On the other hand, structures with poor maintenance that have not been remodeled or modernized will have an effective age greater than the actual age. Economic life is the period of time over which a structure contributes to property value. This concept can be stated as: effective age divided by economic life equals percent physical depreciation.

Schedules have been developed for improvements with typical economic lives of various lengths. The schedules reflect what is considered typical for a structure at a certain effective age. The schedules are based on generally accepted sources and are modified for local conditions by extracting depreciation directly from the market. However, scheduled depreciation may be overridden with a percent good to account for the condition of otherwise similar structures that depreciate at lesser or more rapid rates than what is considered to be typical

Market Area Adjustments for Single Family/Rural Residential

The district's primary approach to value for residential properties uses a hybrid cost- sales comparison approach that accounts for market area influences not otherwise specified in the cost approach as it is applied at large. Market area influence adjustments are needed to trend values produced by the cost approach closer to actual sales prices of property within

a given market area. The sales used to determine the market area adjustment will reflect the market influences and conditions only for the specified area.

Market area adjustments are made on the basis of sales to appraisal ratios studies that compare recent sales prices of properties within a delineated area with the properties' value as determined by the cost approach. The ratios derived from dividing the appraisal district's cost approach values by the sales prices will indicate the level of appraisal currently produced by the at large cost approach. The appropriate area adjustment, whether upward or downward, is then applied to trend the appraised values closer to actual market value as evidenced by the recent sales prices within the area. Once the area adjustment is applied, a second ratio study is conducted to compare the proposed appraised values with the recent sales prices. From this study, a final market area adjustment is selected and applied uniformly to all properties within the area including sold and unsold properties.

Summary of Models for Single Family/Rural Residential

The following formula describes the single family residential/rural residential model:

$$MV = LV + MAA [(RCN - D)]$$

Where:

MV = Market Value

LV = Land Value

MAA = Market Area Adjustment

RCN = Replacement Cost New

D = Depreciation

Model Calibration for Single Family/Rural Residential

Model calibration of the single family residential/rural residential model involves the selection of the appropriate RCN, economic life and market area for each type or class of property.

Specification of Models for Multi-Family Residential-Income

The models for multi-family residential properties specify the income approach.

When the income approach is used, Sec. 23.012 requires the appraiser to:

1. Analyze comparable rental data or the potential earnings capacity of the property, or both, to estimate the gross income potential of the property;
2. Analyze comparable operating expense data to estimate the operating expenses of the property;
3. Analyze comparable data available to estimate rates of capitalization or rate of discount;

4. Base projections of future rent or income potential and expenses on reasonable clear and appropriate evidence;
5. To consider, in developing income statements and cash flow projections, historical information and trends; current supply and demand factors affecting these trends; current supply and demand factors affecting these trends; and anticipated events such as competition from other similar properties under construction.

Rents, expenses and vacancy rates are obtained from a market analysis.

Allowable expenses occur in three categories: fixed expenses, variable expenses and replacement allowances. An example of a fixed expense is hazard insurance. Examples of variable expenses are utilities and janitorial services. Replacement allowance provide for the replacement of building components that wear out more rapidly than the building itself and must be replaced periodically during the buildings useful life such as heating and cooling systems.

An overall capitalization rate reflecting a satisfactory rate or return for the investor, recapture of capital and property taxes is used.

Summary of Model for Multi-Family Residential-Income

The following formula describes the model for multi-family properties:

	Where:	
PGI	PGI	= potential gross income
-V/C	V/C	= vacancy/collection loss
=EGR	EGR	= effective gross rent
+ SI	SI	= secondary income
=EGI	EGI	= effective gross income
-OPEX	OPEX	= operating expenses
=NOI	NOI	= net operating income
/ CR	CR	= capitalization rate
=MV	MV	= market value

Model Calibration for Multi-Family Residential-Income

Model calibration for the multi-family residential involves the selection of the appropriate capitalization rate and the adjustment of the projected net income to reflect the characteristics of the subject property.

Specification of Model for Multi-Family-Cost

The models for multi-family properties specify the income approach with a secondary use of the cost approach. The cost approach is based on the principle of substitution: an informed buyer will pay no more for a property than the price of acquiring a vacant site and constructing a substitute building of equal utility, assuming no costly delays in construction.

Land values are specified by a sales comparison approach. An analysis of vacant land sales is conducted and schedules using front foot, square foot, and acreage or per lot values are developed. Schedule driven values may be modified for shape, size, topography, etc.

For multi-family residential properties, improvements are stratified into similar groups since there is a different market for each group. Specifically, properties are classified by the following characteristics: 1) Exterior wall cover --- brick veneer or frame; 2) Quality of construction based on typical building specifications for each class; 3) Square footage of living area.

Replacement cost new (RCN) for living area is expressed in terms of cost per square foot. Building component cost for items in excess of the base cost for a class, such as fireplaces or bathrooms, are expressed in a lump sum basis. The RCN for building additives such as CHCA, garages and porches are expressed in terms of square foot cost based on a percentage of the base cost for the living area. Other structures such as outbuildings are expressed on a per square foot basis or on a lump sum contributory basis. RCN as specified by Marshall & Swift for different levels of quality of construction, exterior characteristics and different sizes is determined. A local modifier is determined by analyzing a group of sold properties consisting of new construction or relatively new construction and then applied to the Marshall & Swift indicated costs. The schedule costs may be overridden to account for atypical features or characteristics not adequately addressed by the benchmark cost system.

Depreciation for Multi-Family

Depreciation is the loss in value from the replacement cost of an improvement due to physical deterioration, functional obsolescence and economic obsolescence.

Depreciation for commercial properties is based on an age-life method of depreciation that uses effective age and economic life. Effective age is the age indicated by the condition and utility of a structure. Effective age will not always be the same as actual age. Structures with better than average maintenance, remodeling or modernization will have an effective age less than that of the actual age. On the other hand, structures with poor maintenance that have not been remodeled or modernized will have an effective age greater than the actual age. Economic life is the period of time over which a structure contributes to property value. This concept can be stated as: effective age divided by economic life equals percent physical depreciation.

Market Area Adjustments for Multi-Family

Since multi-family properties (apartments) compete in a county-wide market there are no market areas established for multi-family properties.

Summary of Cost Model for Multi-Family

The following formula describes the cost model for multi-family:

$$MV = LV + [(RCN - D)]$$

Where:

$$MV = \text{Market Value}$$

LV = Land Value
RCN = Replacement Cost New
D = Depreciation

Model Calibration for Multi-Family-Cost

Model calibration of the multi-family cost model involves the selection of the appropriate RCN and economic life for each type or class of property.

Specification of Models for Commercial

The models for commercial properties specify the cost approach with a secondary use of the income approach. The cost approach is based on the principle of substitution: an informed buyer will pay no more for an improved property than the price of acquiring a vacant site and constructing a substitute building of equal utility, assuming no costly delays in construction.

Land values are specified by the sales comparison approach. An analysis of vacant land sales is conducted and a series of schedules using front foot, square foot, and acreage or per lot unit values are developed. Schedule driven values may be modified for shape, size topography or other factors.

For commercial properties, improvements are classified by the following since there is a different market for each group: 1) Use types for which they were designed such as office and retail; 2) Construction types which refer particularly to the materials used in the exterior walls and frame; 3) Quality of construction. RCN is expressed in terms of cost per square foot. The RCN for building additives such as garages and porches is expressed in terms of square foot cost based on a percentage of the base cost for the main area or a per square foot unit special price. Other structures such as outbuildings are expressed on a cost per square foot basis or on a lump sum contributory basis. RCN as specified by Marshall & Swift for different levels of quality of construction, exterior characteristics and different sizes is determined. A local modifier is determined by analyzing a group of sold properties consisting of new construction or relatively new construction and then applied to the Marshall & Swift indicated costs. The schedule costs may be overridden to account for atypical features or characteristics not adequately addressed by the benchmark cost system.

Depreciation for Commercial

Depreciation is the loss in value from the replacement cost of an improvement due to physical deterioration, functional obsolescence and economic obsolescence.

Depreciation for commercial properties is based on an age-life method of depreciation that uses effective age and economic life. Effective age is the age indicated by the condition and utility of a structure. Effective age will not always be the same as actual age. Structures with better than average maintenance, remodeling or modernization will have an effective age less than that the actual age. On the other hand, structures with poor maintenance that have not been remodeled or modernized will have an effective age greater than the actual age. Economic

life is the period of time over which a structure contributes to property value. This concept can be stated as: effective age divided by economic life equals percent physical depreciation.

Market Area Adjustments for Commercial

Since commercial properties compete in a county-wide market there are no market areas established for commercial properties.

Summary of Cost Model for Commercial

The following formula describes the cost model for commercial: $MV = LV + [(RCN - D)]$

Where: MV = Market Value
 LV = Land Value
 RCN = Replacement Cost New
 D = Depreciation

Model Calibration for Commercial-Cost

Model calibration of the commercial cost model involves the selection of the appropriate RCN and economic life for each type or class of property.

The income approach is used on commercial properties where the value of the property is based upon its ability to generate income over a period of time. Typically the income approach is applied to commercial properties such as offices and retail.

When the income approach is used, Sec. 23.012 requires the appraiser to:

1. Analyze comparable rental data or the potential earnings capacity of the property, or both, to estimate the gross income potential of the property;
2. Analyze comparable operating expense data to estimate the operating expenses of the property;
3. Analyze comparable data available to estimate rates of capitalization or rate of discount;
4. Base projections of future rent or income potential and expenses on reasonable clear and appropriate evidence;
5. To consider, in developing income statements and cash flow projections, historical information and trends; current supply and demand factors affecting these trends;

current supply and demand factors affecting these trends; and anticipated events such as competition from other similar properties under construction.

Rents, expenses and vacancy rates are obtained from a market analysis.

Allowable expenses occur in three categories: fixed expenses, variable expenses and replacement allowances. An example of a fixed expense is hazard insurance. Examples of variable expenses are utilities and janitorial services. Replacement allowance provide for the replacement of building components that wear out more rapidly than the building itself and must be replaced periodically during the buildings useful life such as heating and cooling systems.

An overall capitalization rate reflecting a satisfactory rate or return for the investor, recapture of capital and property taxes is used.

Summary of Income Model for Commercial:

The following formula describes the income model used for commercial:

Where:

PGI	PGI	= potential gross income
- V/C	V/C	= vacancy/collection loss
=EGR	EGR	= effective gross rent
+ SI	SI	= secondary income
=EGI	EG I	= effective gross income
- OPEX	OPEX	= operating expenses
=NOI	NOI	= net operating income
/ CR	CR	= capitalization rate
=MV	MV	= market value

Model Calibration for Commercial-Income

Model calibration for the commercial income model involves the selection of the appropriate capitalization rate and the adjustment of the projected net income to reflect the characteristics of the subject property.

Specification of Models for Miscellaneous Rural

The models for miscellaneous rural properties specify the cost approach. The cost approach is based on the principle of substitution: an informed buyer will pay no more for an improved property than the price of acquiring a vacant site and constructing a substitute building of equal utility, assuming no costly delays in construction.

Rural acreage tracts are classified into different groups based on 1) Location; 2) Physical characteristics; 3) Acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre

basis. Values are modified by road factors and may be further modified for shape, topography, or other factors.

For miscellaneous rural improvements, use type, quality of construction and size are considered.

Replacement cost new (RCN) is expressed in terms of cost per square foot area. Relatively insignificant structures may be valued on a lump sum contributory basis. RCN for different levels of quality of construction, exterior characteristics and different sizes is determined from generally accepted sources.

Depreciation for Miscellaneous Rural

Depreciation is the loss in value from the replacement cost of an improvement due to physical deterioration, functional obsolescence and economic obsolescence.

Depreciation of miscellaneous rural improvements is based on an age-life method of depreciation that uses effective age and economic life. Effective age is the age indicated by the condition and utility of a structure. Effective age will not always be the same as actual age. Structures with better than average maintenance, remodeling or modernization will have an effective age less than that the actual age. On the other hand, structures with poor maintenance that have not been remodeled or modernized will have an effective age greater than the actual age. Economic life is the period of time over which a structure contributes to property value. This concept can be stated as: effective age divided by economic life equals percent physical depreciation.

Market Area Adjustments for Miscellaneous Rural

There have been no market areas identified concerning valuations of miscellaneous rural improvements.

Summary of Model for Rural Miscellaneous

The following formula describes the model used for miscellaneous rural:

$$MV = LV + (RCN - D)$$

Where:

MV = Market Value

LV = Land Value

RCN = Replacement Cost New

D = Depreciation

Calibration of Model for Rural Miscellaneous

Model calibration of the rural miscellaneous model involves the selection of the appropriate RCN and economic life for each type or class of property.

Specifications of Model for Mobile Homes

The models for mobile homes specify the cost approach. The cost approach is based on the principle of substitution: an informed buyer will pay no more for an improved property than the price of acquiring a vacant site and constructing a substitute building of equal utility, assuming no costly delays in construction.

Land models are specified by the sales comparison method as follows:

1. Rural acreage tracts are classified into different groups based on 1) Location; 2) Physical characteristics; 3) Acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre basis. Values are modified by road factors and may be further modified for shape, topography, or other factors.
2. Subdivision acreage tracts are classified by neighborhood and acreage size. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a per acre basis and may be further modified for shape, topography, or other factors.
3. Lots are classified by neighborhood and front footage or square footage. An analysis of vacant real property sales is conducted and then a series of land schedules are developed. Values for these properties are expressed on a front foot basis or square foot basis. Land values may be further modified on the basis of shape, size, topography, and other factors.

Mobile homes are stratified into similar groups based on quality of construction and size.

Replacement cost new (RCN) for living area is expressed in terms of cost per square foot. Building component cost for items in excess of the base cost for a class, such as fireplaces or bathrooms, are expressed in a lump sum basis. The RCN for building additives such as CHCA, garages and porches are expressed in terms of square foot cost. Other structures such as outbuildings are expressed on a cost per square foot basis or on a lump sum contributory basis. RCN as specified by Marshall & Swift for different levels of quality of construction, exterior characteristics and different sizes is determined. A local modifier is determined and then applied to the Marshall & Swift indicated costs. The schedule costs may be overridden to account for atypical features or characteristics not adequately addressed by the benchmark cost system.

Depreciation for Mobile Homes

Depreciation is the loss in value from the replacement cost of an improvement due to physical deterioration, functional obsolescence and economic obsolescence.

JCAD's mobile home depreciation tables are based on an age-life method of depreciation that uses effective age and economic life. Effective age is the age indicated by the condition and utility of a structure. Effective age will not always be the same as actual age. Structures with better than average maintenance, remodeling or modernization will have an effective age less than that the actual age. On the other hand, structures with poor maintenance that have not been remodeled or modernized will have an effective age greater than the actual age. Economic life is the period of time over which a structure contributes to property value. This concept can be stated as: effective age divided by economic life equals percent physical depreciation.

Schedules have been developed for improvements with typical economic lives of various lengths. The schedules reflect what is considered typical for a structure at a certain effective age. The schedules are based on generally accepted sources and are modified for local conditions by extracting depreciation directly from the market. However, scheduled depreciation may be overridden with a percent good to account for the condition of otherwise similar structures that depreciate at lesser or more rapid rates than what is considered to be typical.

Market Area Adjustments for Mobile Homes

The district's primary approach to value for residential properties uses a hybrid cost- sales comparison approach that accounts for market area influences not otherwise specified in the cost approach as it is applied at large. Market area influence adjustments are needed to trend values produced by the cost approach closer to actual sales prices of property within a given market area. The sales used to determine the market area adjustment will reflect the market influences and conditions only for the specified area.

Market area adjustments are made on the basis of sales to appraisal ratios studies that compare recent sales prices of properties within a delineated area with the properties' value as determined by the cost approach. The ratios derived from dividing the appraisal district's cost approach values by the sales prices will indicate the level of appraisal currently produced by the at large cost approach. The appropriate area adjustment, whether upward or downward, is then applied to trend the appraised values closer to actual market value as evidenced by the recent sales prices within the area. Once the area adjustment is applied, a second ratio study is conducted to compare the proposed appraised values with the recent sales prices. From this study, a final market area adjustment is selected and applied uniformly to all properties within the area including sold and unsold properties.

Summary of Models for Mobile Homes

The following formula denotes the formula generally used for mobile home properties:

$$MV = LV + MAA [(RCN - D)]$$

Where:

MV	=	Market Value
LV	=	Land Value
MAA	=	Market Area Adjustment
RCN	=	Replacement Cost New
D	=	Depreciation

Calibration of Model for Mobile Homes

Model calibration of the mobile home model involves the selection of the appropriate RCN and economic life for each type or class of property.

Model Specifications for Special Valuations Properties

Special valuation properties (ag-use and timber-use properties) are valued according to their productivity value in accordance with provision of Sec 23 Property tax Code.

Ag use properties are classified into categories such as native pasture and improved pasture. For each category a net-to-land is determined. Net to land means the average annual net income derived from the use of the land that would have been earned from the land during the five year period preceding the year before the appraisal by an owner using ordinary prudence in the management of the land. The net to land is calculated by considering cash lease income less expenses for property taxes, fencing, and management. The net to land is then divided by a statutory capitalization rate to arrive at a value.

Timber use properties are classified according to forest type (pine, hardwood, mixed and by soil types (Class I, II, III, IV). A net to land is determined for each category. Net to land means the average net income that would have been earned by the land or the five preceding five years by a person using ordinary prudence in the management of the land. The net to land for each year is determined by multiplying the land's potential average annual growth rate, expressed in tons, by the stumpage value, expressed in price per ton, of large pine sawtimber, small pine sawtimber, pine pulpwood, hardwood sawtimber, hardwood pulpwood, and any other significant timber product and by then subtracting from the product reasonable management costs and other reasonable expenses directly attributable to the production of timber. The net to land is divided by a statutory capitalization rate to arrive at a value.

Market Areas for Special Use Properties

Special use properties participate in a regional market and no market areas are established for them.

Summary of Models for Special Use Properties

The following formula describes the model for special use properties:

$$AV = NTL / CR$$

Where:

$$AV = \text{Assessed Value}$$

NTL = Net to land
CR = Capitalization rate

Calibration of Model for Special Use Properties

Calibration of the model for special use properties involves selection of the appropriate land class for the type of property being appraised.

Model Specifications for Business Personal Property

The cost approach is specified for business personal property. The district's primary approach to the valuation of business personal property is the cost approach. The cost approach is based on the principle of substitution: an informed buyer will pay no more for the property than the price of acquiring a substitute property of equal utility.

Business personal property is generally classified according to use types to identify businesses having common attributes such as convenience stores, auto parts stores, etc. Then the property is grouped into two principal categories: 1) furniture, fixtures and equipment (FFE); and 2) inventory. Other categories may include leased equipment, supplies, consigned goods, and vehicles.

Business personal property is valued at its current level of trade. The valuation of business personal property recognizes three distinct levels of trade: manufacturing, wholesale and resale. Incremental costs are added to a product as it advances from one level of trade to the next, increasing its value along the way.

The historical (RCN) for FF&E is generally developed from information that the property owner furnishes to the district by filing renditions or other reports. Costs may be expressed on a comparative unit basis (per square foot). Costs may also be expressed in terms of individual assets or groups of assets where a comparative unit basis is not applicable. If the cost information is not provided by the owner or is unacceptable, the cost is estimated using costs reported for assets of similar businesses that are deemed to have provided accurate and complete information, the Comptroller's latest available business personal property cost schedules, published cost schedules or other generally accepted sources of cost data.

Inventory values are based on information the property owner reports in a rendition or other data reported for similar businesses. Additionally, other generally accepted sources of published data may be used. Inventories may include raw materials, goods in progress and finished goods (or goods held for resale). The market of inventory is the price for which it would sell as a unit to a purchaser who would continue the business. Inventory values may be expressed on a comparative unit basis (per square foot) or expressed in terms of a total value where a comparative unit basis is not applicable.

Vehicle values are based on values provided by a vendor and property owner rendition information.

Values for dealer inventory properties are determined on the basis of inventory and declaration reports they file in accordance with the previously listed sections of the Property Tax Code addressing dealer inventory valuation.

Depreciation for Business Personal Property

The district uses index factors, based on generally accepted published sources, to trend historical costs. Percent good depreciation factors are also based on generally accepted sources. The index factors and percent good factors are used to develop a present value factor (PVF) by year of acquisition as follows: $PVF = \text{Index Factor} \times \text{Percent Good Factor}$. Then, $\text{Historical Cost} \times PVF = \text{Market Value}$. The district's PVF table establishes a schedule of economic lives for assets that can be applied against a specific asset or a category of FFE such as convenience store or fast food. The appropriate economic life is selected and the PVF for the year of acquisition is applied.

A depreciation override may be applied if the condition or effective age of a property cannot be adequately accounted for in the benchmark depreciation system. Also, adjustments for functional and economic obsolescence may be made if warranted.

Market Areas for Business Personal Property

Business personal property participates in a county-wide market and no market areas are established for this type of property.

Summary of Models for Business Personal Property

The following formula describes the business personal property model:

$$MV = RCN - D$$

Where:

MV = Market Value

RCN = Replacement Cost New

D = Depreciation including physical, functional and economic

Calibration of Model for Business Personal Property

Model calibration of the business personal property model involves the selection of the appropriate RCN and economic life for each type or class of property.

Consideration and Reconciliation of Approaches to Value

All three approaches to value, cost sales comparison and income, are considered for all property types. The most appropriate approach is selected and used. In reconciling multiple models that may be appropriate for a property, the model results that best address the

individual characteristics of the subject property while maintaining equal and uniform appraisal among similar properties is selected.

Individual Property Field Review

NEW CONSTRUCTION/DEMOLITION/REMODELING

Field and review procedures for new construction, demolition and remodeling are identified and revised as required. Field production standards are monitored. Only reliable sources of information concerning new construction, demolition and remodeling are used. This critical annual activity is incorporated and entered on the key events calendar for each tax year. All areas, inside and outside of the designated reinspection zones, are annually inspected on a generalized basis to address new improvements, demolition, remodeling, and other updates to property characteristics.

RE-INSPECTION OF PROBLEMATIC MARKET AREAS/PROPERTY TYPES/PROPERTIES

Property types, market areas, and individual properties that fall outside of the normal range of generally accepted statistical measures are determined to be problematic. Field reviews are scheduled to verify and/or correct property characteristic data. Sales confirmation data is re-verified and additional sales data is researched.

REINSPECTION OF THE UNIVERSE OF PROPERTIES

Sec. 25.18 of the Texas Property Tax Code requires re-inspection of the universe of properties at least once every three years. The plan calls for re-inspection, as defined in Sec. 28.15b(1), every two years. The inspection requirements for tax years 2017 and 2018 are identified and scheduled on the key events calendar and map which is attached to this report.

Additionally, all areas, inside and outside of the designated reinspection zones are annually inspected on a generalized basis to address new improvements, demolition, remodeling, and other updates to property characteristics. Finally, a reinspection of any property may be conducted at any time, if deemed necessary to verify property characteristic data.

Office review

Office reviews of certain neighborhoods, samples of properties, and individual properties are also conducted to the extent possible under the circumstances listed above. Sample selections of properties are made and reviewed for unusual differences in dollar amount or percentage change from the previous year's value so that these anomalies may be researched and resolved so that individual value conclusions will meet standards of reasonableness, consistency and accuracy.

Performance Testing

Appraisal to sales ratio studies for real property are conducted to determine if a reappraisal is required, to determine how accurately specified and calibrated mass appraisal models are, and to measure appraisal performance. The key elements in the sales ratio studies are the median level of appraisal, the mean, the weighted mean, the coefficient of dispersion, and the price related differential. Sales ratio studies are conducted in accordance with the **IAAO** Standard on Ratio Studies, and the JCAD guidelines and procedures for conducting ratio studies. In regard to business personal property, samples of properties are checked against individual properties that have highly reliable values, generally those resulting from renditions, to determine how accurately the models are performing.

Independent Performance Testing

Pursuant to Chapter 5 of the Texas Property Tax Code and Sec. 403.302 of the Texas Government Code, the State Comptroller's Property Tax Assistance Division (PTAD) conducts a property value study (PVS) of each school district and appraisal district in Texas every other year. The PVS 1) Measures appraisal performance and 2) Establishes an estimate of total value for school districts that is used in the distribution of state funding for public education. The PVS compares the appraisal district's values to PTAD values that are established by sales price or independent appraisals. The PTAD is required to use recognized statistical sampling techniques; review each appraisal district's appraisal methods, standards and procedures; test the validity of school district taxable values; and test the level and uniformity of appraisal in each appraisal district. The methodology used in the PVS includes stratified samples to improve sample representativeness. The PVS reports a number of measures including the median level of appraisal, coefficient of dispersion and price-related differential for properties overall and by property category. The JCAD staff reviews and analyzes the PVS results.

Certification

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

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in the properties that are the subject of this report.
4. I have no bias with respect to any property that is the subject of this report or to the parties involved with this assignment.
5. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
6. My compensation for completing this assignment is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
7. My analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
8. I have not made a personal inspection of the properties that are the subject of this report. However, the properties that have been inspected have been inspected by one or more of the following appraisers: Lori Barnett, Tammy Easley, Suni Prewitt, Rachel Dowden, Joe Hawthorn, Gregg Davis (CAGL), Laina Taylor and Mickey Davis (CAGI), Richard Griffin (CAGI), Mike Waller (CAGI).
9. No one provided significant mass appraisal assistance to the person signing this certification except for the appraisers listed above.

Lori Barnett
Lori Barnett, Chief Appraiser
Jasper CAD

