

# Shelby County Appraisal District

## Reappraisal Plan 2021 – 2022

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### INTRODUCTION

#### *Scope of Responsibility*

The Shelby County Appraisal District has prepared and published this reappraisal plan and appraisal report to provide our Board of Directors, citizens, and taxpayers with a better understanding of the district's responsibilities and activities. This report has several parts: a general introduction and then, several sections describing the appraisal effort by the appraisal district.

The Shelby County Appraisal District (CAD) is a political subdivision of the State of Texas created effective January 1, 1980. The provisions of the Texas Property Tax Code govern the legal, statutory, and administrative requirements of the appraisal district. Members of the Board of Directors, appointed by the taxing units within the boundaries of Shelby County, constitutes the district's governing body. The chief appraiser, appointed by the Board of Directors, is the chief administrator and chief executive officer of the appraisal district.

The appraisal district is responsible for local property tax appraisal and exemption administration for 12 jurisdictions or taxing units in the county. Each taxing unit, such as the county, a city, school district, etc., sets its own tax rate to generate revenue to pay for such things as police and fire protection, public schools, road and street maintenance, courts, water and sewer systems, and other public services. Property appraisals and estimated values by the appraisal district allocate the year's tax burden on the basis of each taxable property's market value. We also determine eligibility for various types of property tax exemptions such as those for homeowners, the elderly, disabled veterans, charitable or religious organizations and agricultural productivity valuation.

Except as otherwise provided by the Property Tax Code, all taxable property is appraised at its "market value" as of January 1<sup>st</sup>. Under the tax code, "market value" means the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:

- Exposed for sale in the open market with a reasonable time for the seller to find a purchaser;
- Both the seller and the buyer 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;
- Both the seller and buyer seek to maximize their gains, and neither is in a position to take advantage of the exigencies of the other.

The Property Tax Code defines special appraisal provisions for the valuation of residential homestead property (Sec. 23.23), productivity (Sec. 23.41), real property inventory (Sec. 23.12), dealer inventory

(Sec. 23.121, 23.124, 23.1241 and 23.127), nominal (Sec. 23.18) or restricted use properties (Sec. 23.83) and allocation of interstate property (Sec. 23.03). The owner of real property inventory may elect to have the inventory appraised at its market value as of September 1<sup>st</sup> of the year preceding the tax year to which the appraisal applies by filing an application with the chief appraiser requesting that the inventory be appraised as of September 1<sup>st</sup>.

The Texas Property Tax Code, under Sec. 25.18, requires each appraisal office to implement a plan to update appraised values for real property at least once every three years. The district's current policy is to conduct a general reappraisal of taxable property every year. Appraised values are reviewed annually and are subject to change. Business personal properties, minerals and utility properties are appraised every year.

The appraised value of real estate is calculated using specific information about each property. Using computer-assisted mass appraisal programs, and recognized appraisal methods and techniques, we compare that information with the data for similar properties, and with recent cost and market data. The district follows the standards of the International Association of Assessing Officers (IAAO) regarding its appraisal practices and procedures and subscribes to the standards promulgated by the Appraisal Foundation known as the Uniform Standards of Professional Appraisal Practice (USPAP) to the extent they are applicable.

### ***Personnel Resources***

The office of the Chief Appraiser is primarily responsible for overall planning, organizing, staffing, coordinating, and controlling of district operations. The administration department's function is to plan, organize, direct and control the business support functions related to human resources, budget, finance, records management, purchasing, fixed assets, facilities and postal services. The appraisal department is responsible for the valuation of all real and personal property accounts. The property types appraised include commercial, residential, business personal, mineral, utilities, and industrial. The district's appraisers are subject to the provisions of the Property Taxation Professional Certification Act and must be duly registered with the Texas Department of Licensing and Regulation. Support functions including records maintenance, information and assistance to property owners and hearings are coordinated by personnel in support services.

The appraisal district staff consists of 7 employees with the following classifications:

- 1 - Official/Administrator (executive level administration)
- 1 - Professional (supervisory and management)
- 4 - Technicians (appraisers, data entry and mapping)
- 1 - Administrative Support (professional, customer service, clerical and other)

### ***Staff Education and Training***

All personnel that are performing appraisal work are registered with the Texas Department of Licensing and Regulation and are required to take appraisal courses to achieve the status of Registered Professional Appraiser within five years of employment as an appraiser. After they are awarded their license, they must receive additional training of a minimum of 30 hours of continuing education units every five years. Failure to meet these minimum standards results in the termination of the employee.

Additionally, all appraisal personnel receive extensive training in data gathering processes including statistical analyses of all types of property to ensure equality and uniformity of appraisal of all types of property. On-the-job training is delivered by department managers for new appraisers and managers meet regularly with staff to introduce new procedures and regularly monitor appraisal activity to ensure that standardized appraisal procedures are being followed by all personnel.

### ***Data***

The district is responsible for establishing and maintaining and collecting data for approximately 25,000 real and personal property accounts covering approximately 695 square miles within Shelby County. This data includes property characteristics, ownership, and exemption information. Property characteristic data on new construction is updated through an annual field effort; existing property data is maintained through a field review. Sales are routinely validated during a separate field effort; however, numerous sales are validated as part of the new construction and field inspections. General trends in employment, interest rates, new construction trends, cost and market data are acquired through various sources, including internally generated questionnaires to buyer and sellers, university research centers, and market data centers and vendors.

The district has a geographic information system (GIS) that maintains cadastral maps and various layers of data and aerial photography. The district's website makes a broad range of information available for public access, including information on the appraisal process, property characteristics data, certified values, protests and appeal procedures. Downloadable files of related tax information and district forms, including exemption applications and business personal property renditions are also available.

### ***Information Systems***

The Systems Administrator and the computer mapping department manage and maintain the district's data processing facility, software applications, and geographical information system. The district strives to cooperate with other county agencies. The Mainframe hardware/system software is an Dell Server PET630 with Windows Server 2012 R2 operating system and mapping uses a Dell Precision T5300 stand alone with Windows 7 software and ESRI mapping software. The software group provides software services for appraisal applications.

### **Shared Appraisal District Boundaries**

H.B. 1010 changed appraisal procedures with respect to overlapping properties and created several new school districts. Joaquin ISD in Panola County, Tenaha ISD in Panola County, Shelbyville ISD in Sabine County and San Augustine ISD in Shelby County were affected. Panola CAD is responsible for appraising Joaquin ISD and Tenaha ISD in Panola County and these two schools are responsible for a portion of Panola CAD budget based on respective levies. Sabine CAD is responsible for appraising Shelbyville ISD in Sabine County and Shelbyville ISD is responsible for a portion of Sabine CAD's budget and likewise San Augustine ISD is responsible for a portion of Shelby CAD's budget for appraising properties in San Augustine ISD in Shelby County.

### **Independent Performance Test**

According to Chapter 5 of the TPTC and Section 403.302 of the Texas Government Code, the State Comptroller's Property Tax Division (PTD) conducts an annual property value study (PVS) of each Texas school district and each appraisal district. As part of this annual study, the code requires the Comptroller to: use sales and recognized auditing and sampling techniques; review each appraisal district's appraisal methods, standards and procedures to determine whether the district used recognized standards and practices (MSP review); test the validity of school district taxable values in each appraisal district and presume the appraisal roll values are correct when values are valid; and, determine the level and uniformity of property tax appraisal in each appraisal district. The methodology used in the property value study includes stratified samples to improve sample representativeness and techniques or procedures of measuring uniformity. This study utilizes statistical analyses of sold properties (sale ratio studies) and appraisals of unsold properties (appraisal ratio studies) as a basis for assessment ratio reporting. For appraisal districts, the reported measures include median level of appraisal, coefficient of dispersion (COD), the percentage of properties within 10% of the median, the percentage of properties within 25% of the median and price-related differential (PRD) for properties overall and by state category.

There are 8 independent school districts in Shelby CAD for which appraisal rolls are annually developed. The preliminary results of this study are released February 1 in the year following the year of appraisal. The final results of this study are certified to the Education Commissioner of the Texas Education Agency (TEA) the following July of each year. This outside (third party) ratio study provides additional assistance to the CAD in determining areas of market activity or changing market conditions.

## Appraisal Activities

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### INTRODUCTION

#### *Appraisal Responsibilities*

The field appraisal staff is responsible for collecting and maintaining property characteristic data for classification, valuation, and other purposes. Accurate valuation of real and personal property by any method requires a comprehensive physical description of personal property, and land and building characteristics. This appraisal activity is responsible for administering, planning and coordinating all activities involving data collection and maintenance of all commercial, residential and personal property types located within the boundaries of Shelby County and the jurisdictions of this appraisal district. The data collection effort involves the field inspection of real and personal property accounts, as well as data entry of all data collected into the existing information system. The goal is to periodically field inspect residential, commercial, and personal properties in the district 1/3 each year. Improved residential properties are field inspected 1/3 each year.

#### *Appraisal Resources*

- **Personnel** - The appraisal activities are conducted by 4 appraisers and an outside appraisal firm.
- **Data** - The data used by field appraisers includes the existing property characteristic information contained in CAMA (Computer Assisted Mass Appraisal System) from the district's computer system. The data is printed on a property record card (PRD), or personal property data sheets. Other data used includes maps, sales data, fire and damage reports, building permits, mechanic's lien, photos and actual cost and market information. Sources of information are gathered using excellent reciprocal relationships with other participants in the real estate market place. The district cultivates sources and gathers information from both buyers and sellers participating in the real estate market.

#### *Appraisal Frequency and Method Summary*

- **Residential Property** - Residential property is physically examined every three years with appraisers walking in front of each home, noting condition of the improvement and looking for changes that might have occurred to the property since the last on-site check. Exterior pictures are taken of homes upon these inspections. Every subdivision is statistically analyzed annually to ensure that sales that have occurred in the subdivision during the past 12 months are within a +3% range of appraised value. If the sales do not indicate that range, adjustments are made to the subdivision using a process outlined in detail in the Residential Appraisal section of this report.

- *Commercial Property* - Commercial and industrial real estate is observed annually to verify class and condition. The inspection occurs as Business Personal Property appraisers are checking BPP accounts. Pictures are taken of the improvements every other year. Real estate accounts are analyzed against sales of similar properties in Shelby CAD as well as similar communities in East Texas that have similar economies. The income approach to value is also utilized to appraise larger valued commercial properties such as shopping centers, apartment complexes, office buildings, restaurants, motels and hotels, and other types of property that typically sell based on net operating income.
- *Business Personal Property* - Business personal property is observed annually with appraisers going into businesses, when practical, to develop quality and density observations. A rendition is sent for new businesses to complete. Similar businesses to a subject are analyzed annually to determine consistency of appraisal per square foot. Businesses are categorized using SIC codes. Rendition laws provide additional information on which to base values of all BPP account.
- *Minerals* - Working and royalty interests of producing oil and gas wells are appraised annually by an outside firm, Pritchard and Abbott, Inc. The most recent production data available from the Texas Railroad Commission is downloaded into appraisal software that estimates economically recoverable reserves. Those reserves are then valued based upon State mandated pricing using the previous year's average of oil or gas values. A discount is applied over the anticipated life of the well in order to consider the value of money over time to recover those reserves. Each producing lease is valued as a unit and then that value is divided according to the various owners of the lease listed in division orders.
- *Utilities and Pipelines* - Utility companies and pipelines are appraised annually by an outside firm, Pritchard and Abbott, Inc., using a unit value developed using all three approaches to value. For example, a utility company's total value in the State is estimated using cost, market, and income approaches to value and then the entire value is allocated using the components of that utility company that have situs in the various tax units of Shelby CAD. Components include such things as miles of transmission lines, miles of distribution lines, substations and the like for an electric utility.

## **PRELIMINARY ANALYSIS**

### ***Data Collection/Validation***

Data collection of real property involves maintaining data characteristics of the property on CAMA (Computer Assisted Mass Appraisal). The information contained in CAMA includes site characteristics, such as land size and topography, and improvement data, such as square foot of living area, year built, quality of construction, and condition. Field appraisers are required to use a property classification system that establishes uniform procedures for the correct listing of real property. All properties are coded according to a classification system. The approaches to value are structured and calibrated based on this coding system and property description and characteristics. The field appraisers use property

classification references during their initial training and as a guide in the field inspection of properties. Data collection for personal property involves maintaining information on software designed to record and appraise business personal property. The type of information contained in the BPP file includes personal property such as business inventory, furniture and fixtures, machinery and equipment, with details such as cost and location. The field appraisers conducting on-site inspections use a personal property classification system during their initial training and as a guide to correctly list all personal property that is taxable.

The listing procedure utilized by the field appraisers is available in the district offices. Appraisers periodically update the classification system with input from the valuation group.

### *Sources of Data*

The sources of data collection are through property inspection, new construction field effort, data review/relist field effort, data mailer questionnaires, hearings, sales validation field effort, commercial sales verification and field effort, newspapers and publications, and property owner correspondence by mail or via the Internet. A minor source is derived from building permits, presently only the City of Center requires a building permit. The Multiple Listing Service of the Piney Woods Board of Realtors is a reliable source of data, for both property description and market sales data. Area and regional real estate brokers and managers are also sources of market and property information. Data surveys of property owners requesting market information and property description information is also valuable data. Soil surveys and agricultural surveys of farming and ranching property owners and industry professionals are helpful for productivity value calibration. The Texas Railroad Commission is the source for mineral production data and leasing information. Improvement cost information is gathered from local building contractors and Marshall and Swift Valuation Service. Various income and rental surveys are performed by interviewing property managers and operators to determine operating income and expenses for investment and income producing real property.

Data review of entire neighborhoods is generally a good source for data collection. Appraisers walk entire neighborhoods to review the accuracy of our data and identify properties that have to be relisted. The sales validation effort in real property pertains to the collection of market data for properties that have sold. In residential, the sales validation effort involves on-site inspection by field appraisers to verify the accuracy of the property characteristics and confirmation of the sales price. In commercial, the commercial sales group is responsible for contacting sales participants to confirm sales prices and to verify pertinent data.

Property owners are one of the best sources for identifying incorrect data that generates a field check. Frequently, the property owner provides reliable data to allow correction of records without having to send an appraiser on-site. As the district has increased the amount of information available on the Internet, property owners have the opportunity to review information on their property and forward corrections via e-mail. For the property owner without access to the Internet, letters are sometimes submitted notifying the district of inaccurate data. Properties identified in this manner are added to a

work file and inspected at the earliest opportunity. Accuracy and validity in property descriptions and characteristics data is the highest goal and is stressed throughout the appraisal process from year to year. Appraisal opinion quality and validity relies on data accuracy as its foundation.

### ***Data Collection Procedures***

The appraisers are assigned specific areas throughout the district to conduct field inspections. These geographic areas of assignment are maintained for several years to enable the appraiser assigned to that area to become knowledgeable of all the factors that drive values for that specific area. Appraisers of real estate and business personal property conduct field inspections and record information on properties that allows for the entry of corrections and additions that the appraiser may find in his or her field inspection.

The quality of the data used is extremely important in estimating market values of taxable property. While work performance standards are established and upheld for the various field activities, quality of data is emphasized as the goal and responsibility of each appraiser. New appraisers are trained in the specifics of data collection and the classification system set forth and recognized as “rules” to follow. Experienced appraisers are routinely re-trained in listing procedures prior to major field projects such as new construction, sales validation or data review. A quality assurance process exists through supervisory review of the work being performed by the field appraisers. Quality assurance supervision is charged with the responsibility of ensuring that appraisers follow listing procedures, identify training issues and provide uniform training throughout the field appraisal staff.

### ***Data Maintenance***

The field appraiser is responsible for the data entry of his/her fieldwork into the computer file. This responsibility includes not only data entry, but also quality assurance. The majority of the data collected in the field is input by computer staff with supervision by the field appraiser. Data updates and file modification for property descriptions and input accuracy is conducted as the responsibility of the field appraiser and appraisal supervisors.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### ***Field Review***

The date of last inspection and the CAD appraiser responsible are listed on the CAMA record or property card. If a property owner or a jurisdiction disputes the district’s records concerning this data during a hearing, via a telephone call or other correspondence received, the record may be corrected based on the evidence provided or an on-site inspection may be conducted. Typically, a field inspection is requested to verify this information for the current year’s valuation or for the next year’s valuation. Every year a field review of real property located in certain areas or neighborhoods in the jurisdiction is done

during the data review/re-list field effort. A field review is performed on most personal property accounts, with available situs, each year.

### ***Office Review***

Office reviews are completed on properties where update information has been received from the owner of the property and is considered accurate and correct. Data mailers, sent in masse, or at the request of the property owner, frequently verify some property characteristics or current condition of the property. When the property data is verified in this manner, and considered accurate and correct, field inspections may not be required. The personal property department mails property rendition forms in December of each year to assist in the annual review of the property.

### **PERFORMANCE TEST**

The property appraisers are responsible for conducting ratio studies and comparative analysis. Ratio studies are conducted on property located within certain neighborhoods or districts by appraisal staff. The sale ratio and comparative analysis of sale property to appraised property forms the basis for determining the level of appraisal and market influences and factors for the neighborhood. This information is the basis for updating property valuation for the entire area of property to be evaluated. Field appraisers, in many cases, may conduct field inspections to insure the accuracy of the property descriptions at the time of sale for this study. This inspection is to ensure that the ratios produced are accurate for the property sold and that appraised values utilized in the study are based on accurate property data characteristics observed at the time of sale. Also, property inspections are performed to discover if property characteristics had changed as of the sale date or subsequent to the sale date. Sale ratios should be based on the value of the property as of the date of sale not after a subsequent or substantial change was made to the property after the negotiation and agreement in price was concluded. Properly performed ratio studies are a good reflection of the level of appraisal for the district.

## Residential Valuation Process

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### INTRODUCTION

#### *Scope of Responsibility*

The residential appraisers are responsible for estimating equal and uniform market values for residential improved and vacant property. There are approximately 9,823 residential improved single and multiple family parcels and 1,932 vacant residential properties in Shelby County and adjoining over-lapping jurisdictional areas.

#### *Appraisal Resources*

- ***Personnel - The residential appraisal staff consists of 4 appraisers. The following appraisers are responsible for estimating the market value of residential property:***

Robert N. Pigg, Chief Appraiser, Income Property, Residential Appraiser  
Ahroon Sisk, Residential Appraiser  
Eric Fairchild, Residential Appraiser  
Brad Fitzgerald, Residential Appraiser

- **Data** - An individualized set of data characteristics for each residential dwelling and multiple family units in this district are collected in the field and data entered to the computer. The property characteristic data drives the application of computer-assisted mass appraisal (CAMA) under the Cost, Market, and Income Approaches to property valuation.

### VALUATION APPROACH

#### *Land Analysis*

Residential land valuation analysis is conducted prior to neighborhood sales analysis. The value of the land component to the property is estimated based on available market sales for comparable and competing land under similar usage. A comparison and analysis of comparable land sales is conducted based on a comparison of land characteristics found to influence the market price of land located in the neighborhood. A computerized land table file stores the land information required to consistently value individual parcels within neighborhoods given known land characteristics. Specific land influences are considered, where necessary, and depending on neighborhood and individual lot or tract characteristics, to adjust parcels outside the neighborhood norm for such factors as access, view, shape, size, and topography. The appraisers use abstraction and allocation methods to ensure that estimated land values best reflect the contributory market value of the land to the overall property value.

### ***Area Analysis***

Data on regional economic forces such as demographic patterns, regional locational factors, employment and income patterns, general trends in real property prices and rents, interest rate trends, availability of vacant land, and construction trends and costs are collected from private vendors and public sources and provide the field appraiser a current economic outlook on the real estate market. Information is gleaned from real estate publications and sources such as continuing education in the form of IAAO and TDLR classes.

### ***Neighborhood and Market Analysis***

Neighborhood analysis involves the examination of how physical, economic, governmental and social forces and other influences affect property values. The effects of these forces are also used to identify, classify, and stratify comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. Residential valuation and neighborhood analysis is conducted on various market areas within each of the political entities known as Independent School Districts (ISD). Analysis of comparable market sales forms the basis of estimating market activity and the level of supply and demand affecting market prices for any given market area, neighborhood or district. Market sales indicate the effects of these market forces and are interpreted by the appraiser into an indication of market price ranges and indications of property component change considering a given time period relative to the date of appraisal. Cost and Market Approaches to estimate value are the basic techniques utilized to interpret these sales. For multiple family properties the Income Approach to value is also utilized to estimate an opinion of value for investment level residential property.

The first step in neighborhood analysis is the identification of a group of properties that share certain common traits. A "neighborhood" for analysis purposes is defined as the largest geographic grouping of properties where the property's physical, economic, governmental and social forces are generally similar and uniform. Geographic stratification accommodates the local supply and demand factors that vary across a jurisdiction. Once a neighborhood with similar characteristics has been identified, the next step is to define its boundaries. This process is known as "delineation". Some factors used in neighborhood delineation include location, sales price range, lot size, age of dwelling, quality of construction and condition of dwellings, square footage of living area, and story height. Delineation can involve the physical drawing of neighborhood boundary lines on a map, but it can also involve statistical separation or stratification based on attribute analysis. Part of neighborhood analysis is the consideration of discernible patterns of growth that influence a neighborhood's individual market. Few neighborhoods are fixed in character. Each neighborhood may be characterized as being in a stage of growth, stability or decline. The growth period is a time of development and construction. As new neighborhoods in a community are developed, they compete with existing neighborhoods. An added supply of new homes tends to induce population shift from older homes to newer homes. In the period of stability, or equilibrium, the forces of supply and demand are about equal. Generally, in the stage of equilibrium, older neighborhoods can be more desirable due to their stability of residential character and proximity to the workplace and other community facilities. The period of decline reflects diminishing demand or

desirability. During decline, general property use may change from residential to a mix of residential and commercial uses. Declining neighborhoods may also experience renewal, reorganization, rebuilding, or restoration, which promotes increased demand and economic desirability.

Neighborhood identification and delineation is the cornerstone of the residential valuation system at the district. All the residential analysis work done in association with the residential valuation process is neighborhood specific. Neighborhoods are field inspected and delineated based on observable aspects of homogeneity. Neighborhood delineation is periodically reviewed to determine if further neighborhood delineation is warranted. Whereas neighborhoods involve similar properties in the same location, a neighborhood group is simply defined as similar neighborhoods in similar locations. Each residential neighborhood is assigned to a neighborhood group based on observable aspects of homogeneity between neighborhoods. Neighborhood grouping is highly beneficial in cost-derived areas of limited or no sales or use in direct sales comparison analysis. Neighborhood groups, or clustered neighborhoods, increase the available market data by linking comparable properties outside a given neighborhood. Sales ratio analysis, discussed below, is performed on a neighborhood basis, and in soft sale areas on a neighborhood group basis.

### ***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 productive to its maximum. The highest and best use of residential property is normally its current use. This is due in part to the fact that residential development, in many areas, through use of deed restrictions and zoning, precludes other land uses. Residential valuation undertakes reassessment of highest and best use in transition areas and areas of mixed residential and commercial use. In transition areas with ongoing gentrification, the appraiser reviews the existing residential property use and makes a determination regarding highest and best use. Once the conclusion is made that the highest and best use remains residential, further highest and best use analysis is done to decide the type of residential use on a neighborhood basis. As an example, it may be determined in a transition area that older, non-remodeled homes are economic misimprovements, and the highest and best use of such property is the construction of new dwellings. In areas of mixed residential and commercial use, the appraiser reviews properties in these areas on a periodic basis to determine if changes in the real estate market require reassessment of the highest and best use of a select population of properties.

## **VALUATION AND STATISTICAL ANALYSIS (Model Calibration)**

### ***Cost Schedules***

All residential parcels in the district are valued with a replacement cost estimated from identical cost schedules based on the improvement classification system using a comparative unit method. The district's residential cost schedules are estimated from Marshall and Swift, a nationally recognized cost estimator service. These cost estimates are compared with sales of new improvements and evaluated from year to year and indexed to reflect the local residential building and labor market. Costs may also

be indexed for neighborhood factors and influences that affect the total replacement cost of the improvements in a smaller market area based on evidence taken from a sample of market sales. The cost schedules are reviewed regularly as a result of recent state legislation requiring that the appraisal district cost schedules be within a range of plus or minus 10% from nationally recognized cost schedules.

A review of the residential cost schedule is performed annually. As part of this review and evaluation process of the estimated replacement cost, newly constructed sold properties representing various levels of quality of construction in district are considered. The property data characteristics of these properties are verified, and photographs are taken of the samples. CAD replacement costs are compared against Marshall & Swift, a nationally recognized cost estimator, and the indicated replacement cost abstracted from these market sales of comparably improved structures. The results of this comparison are analyzed using statistical measures, including stratification by quality and reviewing of estimated building costs plus land to sales prices. As a result of this analysis, a new regional multiplier or economic index factor and indications of neighborhood economic factors are developed for use in the district's cost process. This new economic indexes estimated and used to adjust the district's cost schedule to be in compliance with local building costs as reflected by the local market.

### ***Sales Information***

A sales file for the storage of "snapshot" sales data at the time of sale is maintained for real property. Residential vacant land sales, along with commercial improved and vacant land sales are maintained in a sales information system. Residential improved and vacant sales are collected from a variety of sources, including: district questionnaires sent to buyer and seller, field discovery, protest hearings, Board of Realtor's MLS, various sale vendors, builders, and realtors. A system of type, source, validity and verification codes has been established to define salient facts related to a property's purchase or transfer and to help determine relevant market sale prices. The effect of time as an influence on price was considered by paired comparison and applied in the ratio study to the sales as indicated within each neighborhood area. Neighborhood sales reports are generated as an analysis tool for the appraiser in the development and estimation of market price ranges and property component value estimates. Abstraction and allocation of property components based on sales of similar property is an important analysis tool to interpret market sales under the cost and market approaches to value. These analysis tools help determine and estimate the effects of change, with regard to price, as indicated by sale prices for similar property within the current market.

Monthly time adjustments are estimated based on comparative analysis using paired comparison of sold property. Sales of the same property were considered and analyzed for any indication of price change attributed to a time change or influence. Property characteristics, financing, and conditions of sale were compared for each property sold in the pairing of property to isolate only the time factor as an influence on price.

### ***Statistical Analysis***

The residential valuation appraisers perform statistical analysis annually to evaluate whether estimated values are equitable and consistent with the market. Ratio studies are conducted on each of the residential valuation neighborhoods in the district to judge the two primary aspects of mass appraisal accuracy--level and uniformity of value. Appraisal statistics of central tendency generated from sales ratios are evaluated and analyzed for each neighborhood. The level of appraised values is determined by the weighted mean ratio for sales of individual properties within a neighborhood, and a comparison of neighborhood weighted means reflect the general level of appraised value between comparable neighborhoods.

The appraiser, through the sales ratio analysis process, reviews every neighborhood annually. The first phase involves neighborhood ratio studies that compare the recent sales prices of neighborhood properties to the appraised values of these sold properties. This set of ratio studies affords the appraiser an excellent means of judging the present level of appraised value and uniformity of the sales. The appraiser, based on the sales ratio statistics and designated parameters for valuation update, makes a preliminary decision as to whether the value level in a neighborhood needs to be updated or whether the level of market value in a neighborhood is at an acceptable level.

### ***Market and Cost Reconciliation and Valuation***

Neighborhood analysis of market sales to achieve an acceptable sale ratio or level of appraisal is also the reconciliation of the market and cost approaches to valuation. Market factors are developed from appraisal statistics provided from market analyses and ratio studies and are used to ensure that estimated values are consistent with the market and to reconcile cost indicators. The district's primary approach to the valuation of residential properties uses a hybrid cost-sales comparison approach. This type of approach accounts for neighborhood market influences not particularly specified in a purely cost model. The following equation denotes the hybrid model used:

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

Whereas, in accordance with the cost approach, the estimated market value (MV) of the property equals the land value (LV) plus the replacement cost new of property improvements (RCN) less accrued depreciation (AD). As the cost approach separately estimates both land and building contributory values and uses depreciated replacement costs, which reflect only the supply side of the market, it is expected that adjustments to the cost values may be needed to bring the level of appraisal to an acceptable standard as indicated by market sales. Thus, demand side economic factors and influences may be observed and considered. These market, or location adjustments, may be abstracted and applied uniformly within neighborhoods to account for locational variances between market areas or across a jurisdiction. Whereas, in accordance with the Market Approach, the estimated market value (MV) of the property equals the basic unit of property, under comparison, times the market price range per unit for sales of comparable property. For residential property, the unit of comparison is typically the price per square foot of living area or the price indicated for the improvement contribution. This analysis for the

hybrid model is based on both the cost and market approaches as a correlation of indications of property valuation. A significant unknown for these two indications of value is determined to be the rate of change for the improvement contribution to total property value. The measure of change for this property component can best be reflected and based in the annualized accrued depreciation rate. This cost related factor is most appropriately measured by sales of similar property. The market approach, when improvements are abstracted from the sale price, indicates the depreciated value of the improvement component, in effect, measuring changes in accrued depreciation, a cost factor. The level of improvement contribution to the property is measured by abstraction of comparable market sales, which is the property sale price less land value. The primary unknown for the cost approach is to accurately measure accrued depreciation affecting the amount of loss attributed to the improvements as age increases and condition changes. This evaluation of cost results in the depreciated value of the improvement component based on age and condition. The evaluation of this market and cost information is the basis of reconciliation and indication of property valuation under this hybrid model.

When the appraiser reviews a neighborhood, the appraiser reviews and evaluates a ratio study that compares recent sales prices of properties, appropriately adjusted for the effects of time, within a delineated neighborhood, with the value of the properties' based on the estimated depreciated replacement cost of improvements plus land value. The calculated ratio derived from the sum of the sold properties' estimated value divided by the sum of the time adjusted sales prices indicates the neighborhood level of appraisal based on sold properties. This ratio is compared to the acceptable appraisal ratio, 96% to 100%, to determine the level of appraisal for each neighborhood. If the level of appraisal for the neighborhood is outside the acceptable range of ratios, adjustments to the neighborhood are made.

If reappraisal of the neighborhood is indicated, the appraiser analyzes available market sales, appropriately adjusted for the apparent effects of time, by market abstraction of property components. This abstraction of property components allows the appraiser to focus on the rate of change for the improvement contribution to the property by providing a basis for calculating accrued depreciation attributed to the improvement component. This impact on value is usually the most significant factor affecting property value and the most important unknown to determine by market analysis. Abstraction of the improvement component from the adjusted sale price for a property indicates the effect of overall market suggested influences and factors on the price of improvements that were a part of this property, recently sold. Comparing this indicated price or value allocation for the improvement with the estimated replacement cost new of the improvement indicates any loss in value due to accrued forms of physical, functional, or economic obsolescence. This is a market driven measure of accrued depreciation and results in a true and relevant measure of improvement marketability, particularly when based on multiple sales that indicate the trending of this rate of change over certain classes of improvements within certain neighborhoods. Based on this market analysis, the appraiser estimates the annual rate of depreciation for given improvement descriptions considering age and observed condition. Once estimated, the appraiser recalculates the improvement value of all property within the sale sample to consider and review the effects on the neighborhood sale ratio. After an acceptable level of appraisal is achieved within the sale sample, the entire neighborhood of property is recalculated utilizing the indicated

depreciation rates taken from market sales. This depreciation factor is the basis for trending all improvement values and when combined with any other site improvements and land value, brings the estimated property value through the cost approach closer to actual market prices as evidenced by recent sale prices available within a given neighborhood. Therefore, based on analysis of recent sales located within a given neighborhood, estimated property values will reflect the market influences and conditions only for the specified neighborhood, thus producing more representative and supportable values. The estimated property values calculated for each update neighborhood are based on market indicated factors applied uniformly to all properties within a neighborhood. Finally, with all the market-trend factors applied, a final ratio study is generated that compares recent sale prices with the proposed appraised values for these sold properties. From this set of ratio studies, the appraiser judges the appraisal level and uniformity in both update and non-update neighborhoods and verifies appraised values against overall trends as exhibited by the local market, and finally, for the school district as a whole.

## **TREATMENT OF RESIDENCE HOMESTEADS**

Beginning in 1998, the State of Texas implemented a constitutional classification scheme concerning the appraisal of residential property that receives a residence homestead exemption. Under that law, beginning in the second year a property receives a homestead exemption; increases in the assessed value of that property are "capped." The value for tax purposes (assessed value) of a qualified residence homestead will be the LESSER of:

- the market value; or
- the preceding year's appraised value;  
PLUS 10 percent for each year since the property was re-appraised;  
PLUS the value of any improvements added since the last re-appraisal.

Assessed values of capped properties must be recomputed annually. If a capped property sells, the cap automatically expires as of January 1<sup>st</sup> of the year following sale of the property and the property is appraised at its market value. An analogous provision applies to new homes. While a developer owns them, unoccupied residences may be partially complete and appraised as part of an inventory. This valuation is estimated using the district's land value and the percentage of completion for the improvement contribution that usually is similar to the developer's construction costs as a basis of completion on the valuation date. However, in the year following changes in completion, occupancy, or sale, they are appraised at market value.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### ***Field Review***

The appraiser identifies individual properties in critical need of field review through sales ratio analysis. Sold properties are field reviewed on a monthly and periodic basis to check for accuracy of data characteristics.

As the district's parcel count has increased through new home construction, and the homes constructed in the boom years of the late 70's and early 80's experience remodeling, the appraisers are required to perform the field activity associated with transitioning and high demand neighborhoods. Increased sales activity has also resulted in a more substantial field effort on the part of the appraisers to review and resolve sales outliers. Additionally, the appraiser frequently field reviews subjective data items such as quality of construction, condition, and physical, functional and economic obsolescence, factors contributing significantly to the market value of the property. After preliminary estimates of value have been determined in targeted areas, the appraiser takes valuation documents to the field to test the computer-assisted values against his own appraisal judgment. During this review, the appraiser is able to physically inspect both sold properties and unsold properties for comparability and consistency of values.

**Detail of Scheduled Field Appraisals  
Year 1 - Ahroon Sisk**

***August***

Grid #3: Properties 454

0636, 0621, 0044, 0665, 0681, 0727, 0615, 0568, 1043, 0893, 0842, 0835, 0860, 1204, 0948,  
1225, 1007, 0596, 0136, 0505, 0614, 1106, 0620, 0507, 0648  
School District Split STM/STN: 0326, 0599, 0794, 0049, 0523

***September***

Grid #43: Properties 131

0211, 0402, 1203

***October***

Grid #13: Properties 8

0132, 0177, 0180, 0444, 0482, 0490, 0502, 0541, 0650, 0729, 0767, 0774, 0777, 1032, 1103  
School District Split SSH/SJQ: 0004

***November***

Grid #10, 11: Properties 8

0358

School District Split 0460

***December***

Grid #4 & 5: Properties 919

0454, 1004, 1029, 0872, 0223, 1067, 0544, 0814, 0076, 0416, 0371, 0810, 0304, School District Split  
SJQ/SSH 0455, 0233, 0597, 0722

***January***

Grid #28: Properties 517

0082, 0111, 0176, 0178, 0183, 0205, 0209, 0271, 0318, 0417, 0426, 0506, 0509, 0524, 0534, 0660,  
0704, 0721, 0776, 0982, 1028

***February***

Grid #10: Properties 84

0603, 0081, 0384, 0485, 0083, 0895,  
School District Split STM/STN 0381, 0458, 0301, 0639

***March***

Grid #22, 23, 30: Properties 470

0117, 0584, 1096, 0253, 0566, 0161, 1020, 1112, 1118, 1134, 1142, 0173  
School District Split SSH/SJQ 0291, 0287, 0166, 1179, 0196, 0768, 0632

**Detail of Scheduled Field Appraisals  
Year 2 – Ahroon Sisk**

**August**

Grid #4 Properties 589

1102, 1211, 0713, 0793, 0796, 0800, 0810, 0830, 0831, 0844, 0856, 0880, 0888, 0948, 1067, 0550,  
0575, 0596, 0612, 0642, 0674, 0692, 0694, 0707, 0708, 0986,

**September**

Grid #4 Properties 589

1027, 0352, 0365, 0367, 0455, 0498, 0500, 0505, 0519, 0533, 0076, 1029, 0131, 0134, 0136, 0169,  
0217, 0348, 0219, 0224, 0238, 0263, 0269, 0278, 0314, 0338, 1007

**October**

Grid #22 Properties 568

0319, 0718, 0095, 1124, 1121, 0164, 1087, 0785, 0467, 0160, 0406, 0325, 0769, 0098, 0162, 0321,  
0896, 0841, 0716  
School District Split 0287, 0196, 0770, 0768

**November**

Grid #14, 22, 38, 42 Properties 354

0862, 0950, 0159, 0324, 0646, 0041, 0047, 0067, 0256, 0393, 0690, 0881, 0882, 0053, 0072, 0075,  
0084, 0237, 0305, 0375, 0396, 0397, 0452, 0476, 0536, 0572  
School District Split SSH/SJQ 0150, 0684, 0714, 0828, 0874, 1160, 1161, 1194

**December**

Grid #29, 30, 38 Properties 675

0503, 0765, 0920, 0783, 1050, 0569, 1231, 1226, 0276, 0457, 0053, 1084, 0944, 0476, 1093  
School District Split 0453, 0641, 0742, 0207

**January**

Grid #36 Properties 542

0021, 0022, 0152, 0306, 0317, 0418, 0427, 0518, 0627, 0652, 0741, 0763, 0764, 0837, 0972, 0994

**February**

Grid #35, 41 Properties 308

0005, 0215, 0215, 0651, 0741, 0859, 0902, 1117, 1184, 0996, 1015, 0434, 0487, 1197, 1095, 1104,  
1088, 1206, 0947, 1108, 1109, 0440, 0488, 0046,  
School District Split 0709, 0147

**Detail of Scheduled Field Appraisals  
Year 3 - Ahroon Sisk**

***August***

Grid #12 Properties 223

0851, 0582, 0403, 0250, 0535, 1129, 0940, 0733, 0258, 0993, 0908, 0909, 0190, 0605, 0494, 0052,  
1129, 1094, 0329, 0368, 0852, 0431

***September***

Grid #37 Properties 408

0009, 0054, 0059, 0064, 0148, 0194, 0264, 0320, 0473, 0584, 0558, 0585, 0775, 0784, 0823, 0861,  
0875, 0921, 0976, 0986, 1046, 1073, 1149, 1174, 11176, 1238

***October***

Grid #21 Properties 472

0006, 0042, 0060, 0167, 0177, 0180, 0187, 0312, 0316, 0330, 0404, 0428, 0472, 0484, 0604, 0635,  
0717, 0773, 0788, 0807, 0808, 1136, 15A-Subdivision

***January***

Grid #29 Properties 335

0511, 0517, 0613, 0913, 0205, 0204, 0419, 1140, 0210, 1061, 0141, 0364, 0966, 1159  
School District Split 0206, 0493, 1042, 0204, 0419, 0462

***February***

Grid #26, 27, 30 Properties 754

0043, 0184, 0288, 0135, 0099, 0185, 0551, 0094, 0089, 0724, 0113, 1141, 1147, 0968, 0457, 0186,  
0463, 0099  
School District Split SCN/SSH 0001, 0752, 0726

**Detail of Scheduled Field Appraisals  
Year 1 – Eric Fairchild**

**August**

Grid #25 Properties 409

0026, 0036, 0062, 0063, 0139, 0145, 0154, 0212, 0231, 0248, 0366, 0369, 0374, 0398, 0400, 0449, 0513, 0590, 0594, 0679, 0782, 0845, 0876, 0885, 0904, 0954, 0971, 0978, 1002, 1010, 1037, 1049, 1055, 1056, 1063, 1082, 1098, 1120, 1144, 1148, 1153

**September**

Grid #11 Properties 322

0007, 0247, 0461, 0464, 0480, 583, 0629, 0633, 0801, 0813, 0836, 1030, 1180, 1185,

**October**

Grid #11 Properties 293

0096

**November**

Grid #11 Properties 285

0096 BLOCKS 11-22

**December**

Grid #35 Properties 352

0092, 0182, 0270, 0332, 0448, 0451, 0803, 0815, 0816, 0849, 0891, 0907, 0922, 0925, 0933, 0937, 0939, 0941, 0957, 0959, 0960, 0981, 0985, 0997, 1006, 1016, 1045, 1076, 1086, 1109, 1127, 0726-00, 0726-0056, 0709-00, 0147-00

**January**

Grid #20 Properties 505

0040, 0055, 0056, 0125, 0221, 0222, 0260, 0315, 0340, 0465, 0732, 0757, 0825, 0853, 0863, 0898, 1198

**February**

Grid #26 Properties 478 (NOT INCLUDING 0378 AND 0751)

0001, 0008, 0137, 0138, 0188, 0189, 0218, 0254, 0261, 0353, 0369, 0372, 0510, 0515, 0516, 0552, 0656, 0673, 0677, 0698, 0749, 0756, 0779, 0780, 0838, 0854, 0858, 0864, 0866, 0870, 0873, 0879, 0900, 0906, 0912, 0916, 0917, 0918

**March**

Grid #26 Properties 249

0378, 0751

**April**

Grid #34 Properties 292

0108, 0191, 0267, 0272, 0309, 0409, 0405, 0414, 0508, 0514, 0529, 0540, 0585, 0591, 0592, 0676, 0683, 0689, 0702, 0728, 0811, 0847, 0894, 0910, 0926, 0930, 0932, 0934, 0951, 969, 0984, 1041, 1085, 1090, 1123, 1190, 1191, 1208

**Detail of Scheduled Field Appraisals  
Year 2 – Eric Fairchild**

***August***

Grid #19 Properties 307  
0010-0001 thru 0006

***September***

Grid #19 Properties 318  
0010-0007 thru 0026

***October***

Grid #19 Properties 351  
0010-0027 thru 0035

***November***

Grid #19 Properties 314  
0010-0036 thru 0063

***December***

Grid #19 Properties 277  
0010-0064 thru 0069

***January***

Grid #19 Properties 332  
0010-0070 thru 0075

***February***

Grid #19 Properties 222  
0010-0076 thru 0080

***March***

Grid #19 Properties 444  
0035, 0153, 0234, 0277, 0278

***April***

Grid #19 Properties 141  
0010-0081 thru MH85

**Detail of Scheduled Field Appraisals  
Year 3 – Eric Fairchild**

**August**

Grid #19 Properties 431

0286, 0298, 0307, 0308, 0336, 0347, 0407, 0424, 0573, 0589, 0610, 0655, 0798, 0867, 0868, 0964, 0974, 1100

**September**

Grid #19 Properties 310

0644 Thru 0664-0087

**October**

Grid #19 Properties 309

0644-0088 Thru 0644-0094

**November**

Grid #19 Properties 431

0286, 0298, 0307, 0308, 0336, 0347, 0407, 0424, 0573, 0589, 0610, 0655, 0798, 0867, 0868, 0964, 974, 1100

**December**

Grid #10 Properties 161

0065, 0081,0083,0165,0240, 0273, 0429

**January**

Grid #10,27,32 Properties 430

0301, 0460, 0602, 0639, 0107, 0143, 0170, 0175, 0201, 0202, 0244, 0385, 0386, 0539, 0556, 0577, 0581, 0626, 0705, 0726, 0756, 0818, 0824, 0827, 0865, 0911, 0935, 0936, 0953, 0965, 0977, 0991, 0995, 1008, 1026, 1040, 1052, 1099, 1101, 1111, 1207, 1213, 0001-00, 0752-00, 35-0726-00, 35-0726-0008

**February**

Grid #24 Properties 371

0199, 0200, 0231, 0281, 0470, 0475, 0522, 0554, 0559, 0753, 0802, 0819, 0956, 1077

**March**

Grid #18 Properties 384

0116, 0146, 0376, 0422, 0423, 0441, 0525, 0530, 0571, 0609, 0649, 0687, 0760, 0762, 0792, 0809, 0914, 0942, 1152, 1175

**April**

Grid #33 Properties 185

0073, 0093, 0151, 0174, 0235, 0236, 0349, 0370, 0442, 0445, 0512, 0540, 590, 0593, 0696, 0821, 0877, 0890, 0949, 0989, 1021, 1044,01054, 1057, 1068, 1069, 1079, 1092, 1130, 1139, 1155, 1163, 1164, 1182, 1189, 1196, 1205

**Detail of Scheduled Field Appraisals  
Year 1- Brad Fitzgerald**

***August***

Grid #18 - 131 Properties

Timpson Properties-806-745-736-662-600-274-275-337-412-499-527-562-564-850-871-1059-1119-1132-1135-1177-1246

***September***

Grid #10 - 296 Properties

Timpson Properties-65-165-240-273-667-725-762-381-458

***October***

Grid #3 - 260 Properties

Timpson Properties-658-49-326-523-599-9

***November***

Grid #8 - 256 Properties

Timpson Properties-18-19-198-242-300-383-421-469-471-504-565-731-758-772-899

***December***

Grid #25 - 18 Properties

Timpson Properties-289-885

Grid #24 - 159 Properties

Timpson Properties-3-25-144-282-335-351-394-408-439-478-483-771-778-781-797-819-839-1169

***January***

Grid #1 - 512 Properties

Timpson Properties-23-66-104-110-115-118-120-127-128-213-225-226-280-328-341-387-438-618-630-645-659-701-710-735-834-1210-P591-P616-P675

***February***

Grid # 2 - 472 Properties

Timpson Properties-80-109-122-133-157-168-229-239-252-255-259-359-379-390-441-466-486-532-542-557-563-586-607-1248-616-653-657-697-720-723-737-739-754-804-857-992-1024

***March***

Grid #17 - 535 Properties

Timpson Properties-20-39-61-100-106-140-216-243-245-246-251-285-302-331-435-491-495-578-587-622-654-672-678-699-719-759-790-795-1011-11089-1091

**Detail of Scheduled Field Appraisals  
Year 2- Brad Fitzgerald**

***August***

Grid #2 - 365 Properties

Timpson Properties-220-51

***September***

Grid #2 - 699 Properties

Timpson Properties-45

***October***

Grid #9 - 622 Properties

Timpson Properties-38-69-70-71-101-105-123-124-126-168-195-255-303-332-333-357-389-415-149-  
528-537-545-576-588-593-601-606-617-527-666-675-706-715-746-787-799-805-833-663-929-1014-  
1051-1058-1060-1065-1074-1075-1217-901

***November***

Grid #14 - 133 Properties

Joaquin Properties-2-12-13-14-50-311-323-324-761-905-1166-1187-1188

***December***

Grid #14 - 163 Properties

Joaquin Properties-97-155-156-310-410-468-619-712-750-1018-1025-1116-1145-1247-150

***January***

Grid #23 - 199 Properties

Joaquin Properties-327-214-560-567-786-892-943-958-1113-1168-1170-1199-1234-1235

***February***

Grid #6 - 563 Properties

Joaquin Properties-555-631-738

***March***

Grid #22 - 55 Properties

Joaquin Properties-166-196-287-768-770

**Detail of Scheduled Field Appraisals  
Year 3 – Brad Fitzgerald**

***August***

Grid #6 - 474 Properties

Joaquin Properties-48-158-241-313-339-354-481-489-598-625-685-686-766-791

***September***

Grid #6 - 537 Properties

Joaquin Properties-68-74-130-346-501-574-680-822-869-878-970-980-1122

***October***

Grid #5 - 398 Properties

Joaquin Properties-459-637

***November***

Grid #5 - 254 Properties

Joaquin Properties-88-163-172-230-284-413-520-521-832-840-1023-1071-1081

Joaquin/Tenaha Splits-233-455-722

***December***

Grid #13 - 196 Properties

Joaquin Properties-132-444-482-502-541-650-729-767-774-1032-1103

Joaquin/Center Splits-490-777

Joaquin/Shelbyville Splits-177-180

Joaquin/Shelbyville/Center Splits-4

Grid #7 -58 Properties

Joaquin Properties-15-16-700-1172-1241

***January***

Grid #29 - 488 Properties

Joaquin Properties-91-967-1013-204-206-419-462-493-1043-450-1031-112

***February***

Grid #30 - 313 Properties

Joaquin Properties-17-420-477-855-1236-1237

Joaquin/Shelbyville Splits-207-453-641-742

***March***

Grid #30 - 239 Properties

Joaquin Properties-420-1143

### ***Office Review***

Once field review is completed, the appraiser conducts a routine valuation review of all properties as outlined in the discussion of ratio studies and market analysis. Valuation reports comparing previous values against proposed and final values are generated for all residential improved and vacant properties. The percentage of value difference are noted for each property within a delineated neighborhood allowing the appraiser to identify, research and resolve value anomalies before final appraised values are released. Previous values resulting from a hearing protest are individually reviewed to determine if the value remains appropriate for the current year.

Once the appraiser is satisfied with the level and uniformity of value for each neighborhood within his area of responsibility, the estimates of value go to noticing.

## **PERFORMANCE TESTS**

### ***Sales Ratio Studies***

The primary analytical tool used by the appraisers to measure and improve performance is the ratio study. The district ensures that the appraised values that it produces meet the standards of accuracy in several ways. Overall sales ratios are generated for each neighborhood to allow the appraiser to review general market trends within their area of responsibility and provide an indication of market appreciation over a specified period of time. The PC-based ratio studies are designed to emulate the findings of the state comptroller's annual property value study for category A property.

### ***Management Review Process***

Once the proposed value estimates are finalized, the appraiser reviews the sales ratios by neighborhood and presents pertinent valuation data, such as weighted sales ratio and pricing trends, to the appraisal supervisors and the Chief Appraiser for final review and approval. This review includes comparison of level of value between related neighborhoods within and across jurisdiction lines. The primary objective of this review is to ensure that the proposed values have met preset appraisal guidelines appropriate for the tax year in question.

## **Business Personal Property Valuation Process**

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### **INTRODUCTION**

#### *Appraisal Responsibility*

There are four different personal property types appraised by the district's personal property section: Business Personal Property accounts; leased assets; vehicles and aircraft; and multi-location assets.

- **Personnel** - The personal property staff consists of 2 appraisers and no support staff.  
Angie Wright, Appraiser, Business Personal Property  
Robert N. Pigg, Chief Appraiser, Income Property, Residential Appraiser, Business Personal Property
- **Data** - A common set of data characteristics for each personal property account in Shelby CAD is collected in the field. The property characteristic data drives the computer-assisted personal property appraisal (CAPPA) system. The personal property appraisers collect the field data and maintain electronic property files making updates and changes gathered from field inspections, newspapers, property renditions, sales tax permit listing and interviews with property owners.

### **VALUATION APPROACH**

#### *SIC Code Analysis*

Business personal property is classified and utilizes a four-digit numeric codes, called Standard Industrial Classification (SIC) codes that were developed by the federal government to describe property. These classifications are used by Shelby CAD to classify personal property by business type

SIC code identification and delineation is the cornerstone of the personal property valuation system at the district. All of the personal property analysis work done in association with the personal property valuation process is SIC code specific. SIC codes are delineated based on observable aspects of homogeneity and business use.

#### *Highest and Best Use Analysis*

The highest and best use of property is the reasonable and probable use that supports the greatest income and the highest present value as of the date of the appraisal. The highest and best use must be physically possible, legal, financially feasible, and productive to its maximum. The highest and best use of personal property is normally its current use.

## **DATA COLLECTION/VALIDATION**

### ***Data Collection Procedures***

Personal property data collection procedures are published and distributed to all appraisers involved in the appraisal and valuation of personal property. The appraisal procedures are reviewed and revised to meet the changing requirements of field data collection.

### ***Sources of Data***

#### Business Personal Property

The district's property characteristic data was collected through a massive field data collection effort coordinated by the district over the recent past and from property owner renditions. From year to year, reevaluation activities permit district appraisers to collect new data via an annual field inspection. This project results in the discovery of new businesses, changes in ownership, relocation of businesses, and closures of businesses not revealed through other sources. Tax assessors, city and local newspapers, and the public often provide the district information regarding new personal property and other useful facts related to property valuation.

#### Vehicles

An outside vendor provides Shelby CAD with a listing of vehicles within the jurisdiction. The vendor develops this listing from the Texas Department of Transportation (TxDOT) Title and Registration Division records. Other sources of data include property owner renditions and field inspections.

#### Leased and Multi-Location Assets

The primary source of leased and multi-location assets is property owner renditions of property. Other sources of data include field inspections.

## **VALUATION AND STATISTICAL ANALYSIS (model calibration)**

### ***Cost Schedules***

Cost schedules are developed based on the SIC code by the Property Tax Division of the Comptroller's Office and by district personal property valuation appraisers. The cost schedules are developed by analyzing cost data from property owner renditions, hearings, state schedules, and published cost guides. The cost schedules are reviewed as necessary to conform to changing market conditions. The schedules are typically in a price per square foot format, but some exception SIC's are in an alternate price per unit format, such as per room for hotels.

***Statistical Analysis***

Summary statistics including, but not limited to, the median, weighted mean, and standard deviation provide the appraisers an analytical tool by which to determine both the level and uniformity of appraised value by SIC code. Review of the standard deviation can discern appraisal uniformity within SIC codes.

***Depreciation Schedule and Trending Factors:***

Business Personal Property

Shelby CAD’s primary approach to the valuation of business personal property is the cost approach. The replacement cost new (RCN) is either developed from property owner reported historical cost or from CAD developed valuation models. The trending factors used by the CAD to develop RCN are based on published valuation guides. The percent good depreciation factors used by Shelby CAD are also based on published valuation guides. The index factors and percent good depreciation factors are used to develop present value factors (PVF), by year of acquisition, as follows:

$$PVF = INDEX FACTOR \times PERCENT GOOD FACTOR$$

The PVF is used as an “express” calculation in the cost approach. The PVF is applied to reported historical cost as follows:

$$MARKET VALUE ESTIMATE = PVF \times HISTORICAL COST$$

This mass appraisal PVF schedule is used to ensure that estimated values are uniform and consistent within the market and reflect current economic pressures of supply and demand.

***Computer Assisted Personal Property Appraisal (CAPPA)***

The CAPPA valuation process has two main objectives: 1) Analyze and adjust estimated asset cost with existing SIC models. 2) Develop new models for business classifications not previously integrated into CAPPA. The delineated sample is reviewed for accuracy of SIC code, square footage, field data, and original cost information. Models are created and refined using actual original cost data to derive a typical replacement cost new (RCN) per square foot for a specific category of assets. The RCN per square foot is depreciated by the estimated age using the depreciation table adopted for the tax year.

The data sampling process is conducted in the following order: 1) Prioritizing Standard Industrial Classification (SIC) codes for model analysis. 2) Compiling the data and developing the reports. 3) Field checking the selected samples. The models are built and adjusted using internally developed software. The models are then tested against the previous year’s data. The typical RCN per square foot (or applicable unit) is determined by a statistical analysis of the available data.

CAPPA model values are used in the general business personal property valuation program to estimate the value of new accounts for which no property owner’s rendition is filed. Model values are also used

to establish tolerance parameters for testing the valuation of property for which prior data years' data exist or for which current year rendered information is available. The calculated current year value or the prior year's value is compared to the indicated model value by the valuation program. If the value being tested is within an established acceptable percentage tolerance range of the model value, the account passes that range check and moves to the next valuation step. If the account fails the tolerance range check, it is flagged for individual review. Allowable tolerance ranges may be adjusted from year to year depending on the analysis of the results of the prior year.

### Vehicles

Value estimates for vehicles are provided by an outside vendor and are based on Red Book published book values, and there are also considerations available for high mileage. Vehicles that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

### Leased and Multi-Location Assets

Leased and multi-location assets are valued using the PVF schedules mentioned above. If the asset to be valued in this category is a vehicle, then Red Book published book values are used. Assets that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

## **INDIVIDUAL VALUE REVIEW PROCEDURES**

### *Office Review*

#### Business Personal Property

A district valuation computer program exists in a mainframe environment that identifies accounts in need of review based on a variety of conditions. Property owner renditions, accounts with field or other data changes, accounts with prior hearings, new accounts, and SIC cost table changes are all considered. The accounts are processed by the valuation program and pass or fail preset tolerance parameters by comparing appraised values to prior year and model values. The appraisers review accounts that fail the tolerance parameters.

## **PERFORMANCE TESTS**

### *Ratio Studies*

Each year the Property Tax Division of the state comptroller's office conducts a property value study (PVS). The PVS is a ratio study used to gauge appraisal district performance. Results from the PVS play a part in school funding. Rather than a sales ratio study, the personal property PVS is a ratio study using state cost and depreciation schedules to develop comparative personal property values. These values are then compared to Shelby CAD's personal property values and ratios are indicated.

## **Commercial and Industrial Property Valuation Process**

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### **INTRODUCTION**

#### ***Appraisal Responsibility***

This mass appraisal assignment includes all of the commercially described real property which falls within the responsibility of the commercial valuation appraisers of the Shelby County Appraisal District and located within the boundaries of this taxing jurisdiction. Commercial appraisers appraise the fee simple interest of properties according to statute and court decisions. However, the affect of easements, restrictions, encumbrances, leases, contracts or special assessments are considered on an individual basis, as is the appraisalment of any non-exempt taxable fractional interests in real property (i.e. certain multi-family housing projects). Fractional interests or partial holdings of real property are appraised in fee simple for the whole property and divided programmatically based on their prorated interests.

#### ***Appraisal Resources***

**Personnel** - The improved real property appraisal responsibilities are categorized according to major property types of multi-family or apartment, office, retail, warehouse and special use (i.e. hotels, hospitals and, nursing homes).

The following appraisers are responsible for estimating the market value of commercial and industrial property:

Robert N. Pigg, Chief Appraiser, Income Property, Residential/Commercial Appraiser  
Ahroon Sisk, Residential/Commercial Appraiser  
Eric Fairchild, Residential/Commercial Appraiser  
Brad Fitzgerald, Residential/Commercial Appraiser  
Outside Appraisal Firm – Pritchard & Abbott, Inc. (See also the attached Part 2, submitted by Pritchard & Abbott)

**Data** - The data used by the commercial appraisers includes verified sales of vacant land and improved properties and the pertinent data obtained from each (sales price levels, capitalization rates, income multipliers, equity dividend rates, marketing period, etc.). Other data used by the appraisers includes actual income and expense data (typically obtained through the hearings process), actual contract rental data, leasing information (commissions, tenant finish, length of terms, etc.), and actual construction cost data. In addition to the actual data obtained from specific properties, market data publications are also reviewed to provide additional support for market trends.

## **PRELIMINARY ANALYSIS**

### ***Market Study***

Market studies are utilized to test new or existing procedures or valuation modifications in a limited sample of properties located in the district and are also considered and become the basis of updating whenever substantial changes in valuation are made. These studies target certain types of improved property to evaluate current market prices for rents and for sales of commercial and industrial real property. These comparable sale studies and ratio studies reveal whether the valuation system is producing accurate and reliable value estimates or whether procedural and economic modifications are required. The appraiser implements this methodology when developing cost approach, market approach, and income approach models.

Shelby CAD coordinates its discovery and valuation activities with adjoining appraisal districts. Numerous field trips, interviews and data exchanges with adjacent appraisal districts have been conducted to ensure compliance with state statutes. In addition, Shelby CAD administration and personnel interact with other assessment officials through professional trade organizations including the International Association of Assessing Officers, Texas Association of Appraisal Districts, Texas Rural Chief Appraisers, and the Texas Association of Assessing Officers. District staff strives to maintain appraisal skills and professionalism by continuing education in the form of courses that are offered by several professional associations such as International Association of Assessing Officers (IAAO), Texas Association of Assessing Officers (TAAO), Texas Association of Appraisal Districts (TAAD) and Texas Department of Licensing and Regulation (TDLR) courses.

## **VALUATION APPROACH**

### ***Land Value***

Commercial land is analyzed annually to compare appraised values with recent sales of land in the market area. If appraised values differ from sales prices being paid, adjustments are made to all land in that region. Generally, commercial property is appraised on a price per square foot basis. Factors are placed on individual properties based on corner influence, depth of site, shape of site, easements across site, and other factors that may influence value. The land is valued as though vacant at the highest and best use.

### ***Area Analysis***

Area data on regional economic forces such as demographic patterns, regional location factors, employment and income patterns, general trends in real property prices and rents, interest rate trends, availability of vacant land, and construction trends and costs are collected from private vendors and public sources.

### ***Neighborhood Analysis***

The neighborhood and market areas are comprised of the land area and commercially classed properties located within the boundaries of this appraisal jurisdiction. These areas consist of a wide variety of property types including multiple-family residential, commercial and industrial. Neighborhood and area analysis involves the examination of how physical, economic, governmental and social forces and other influences may affect property values within subgroups of property locations. The effects of these forces are also used to identify, classify, and organize comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. In the mass appraisal of commercial and industrial properties these subsets of a universe of properties are generally referred to as market areas, neighborhoods, or economic areas.

Economic areas are defined by each of the improved property use types (apartment, office, retail, warehouse and special use) based upon an analysis of similar economic or market forces. These include but are not limited to similarities of rental rates, classification of projects (known as building class by area commercial market experts), date of construction, overall market activity or other pertinent influences. Economic area identification and delineation by each major property use type is the benchmark of the commercial valuation system. All income model valuation (income approach to value estimates) is economic area specific. Economic areas are periodically reviewed to determine if redelineation is required. The geographic boundaries as well as income, occupancy and expense levels and capitalization rates by age within each economic area for all commercial use types and its corresponding income model have been estimated for these properties.

### ***Highest and Best Use Analysis***

The highest and best use is the most reasonable and probable use that generates the highest net to land and present value of the real estate as of the date of valuation. The highest and best use of any given property must be physically possible, legally permissible, financially feasible, and maximally productive. For improved properties, highest and best use is evaluated as improved and as if the site were still vacant. This perspective assists in determining if the existing improvements have a transitional use, interim use, nonconforming use, multiple uses, speculative use, is excess land, or a different optimum use if the site were vacant. For vacant tracts of land within this jurisdiction, the highest and best use is considered speculative based on the surrounding land uses. Improved properties reflect a wide variety of highest and best uses which include, but are not limited to: office, retail, apartment, warehouse, light industrial, special purpose, or interim uses. In many instances, the property's current use is the same as its highest and best use. This analysis insures that an accurate estimate of market value (sometimes referred to as value in exchange) is derived.

On the other hand, value in use represents the value of a property to a specific user for a specific purpose. This perspective for value may be significantly different than market value, which approximates market price under the following assumptions: (i) no coercion of undue influence over the buyer or seller in an attempt to force the purchase or sale, (ii) well-informed buyers and sellers acting in their own best

interests, (iii) a reasonable time for the transaction to take place, and (iv) payment in cash or its equivalent.

### ***Market Analysis***

A market analysis relates directly to examining market forces affecting supply and demand. This study involves the relationships between social, economic, environmental, governmental, and site conditions. Current market activity including sales of commercial properties, new construction, new leases, lease rates, absorption rates, vacancies, allowable expenses (inclusive of replacement reserves), expense ratio trends, capitalization rate studies are analyzed to determine market ranges in price, operating costs and investment return expectations.

## **DATA COLLECTION / VALIDATION**

### ***Data Collection Manuals***

Data collection and documentation for Commercial/Industrial property is continually updated, providing a uniform system of itemizing the multitude of components comprising improved properties. All properties located in Shelby CAD's inventory are coded according to a specific classification system and the approaches to value are structured and calibrated based on this coding system.

Annually, after the sales of property have been researched, verified, keyed into the database, and quality control has been completed, the sales data is summarized and produced into list form. The confirmed sales reports, known as the Commercial Improved and Vacant Land sales listings categorize the sales by property and use type, and sort the data by location and chronological order. Many of these sales are available to the public for use during protest hearings and are also used by the Shelby CAD appraisers during the hearings process.

### ***Sources of Data***

In terms of commercial sales data, Shelby CAD receives a copy of the deeds recorded in Shelby County and adjoining counties that convey commercially classed properties. These deeds involving a change in commercial ownership are entered into the sales information system and researched in an attempt to obtain the pertinent sale information. Other sources of sale data include the protest hearings process and local, regional and national real estate and financial publications.

For those properties involved in a transfer of commercial ownership, a sale file is produced which begins the research and verification process. The initial step in sales verification involves a computer-generated questionnaire, which is mailed to both parties in the transaction (Grantor and Grantee). If a questionnaire is answered and returned, the documented responses are recorded into the computerized sales database system. If no information is provided, verification of many transactions is then attempted via phone calls to parties thought to be knowledgeable of the specifics of the sale. Other sources contacted are the brokers involved in the sale, property managers or commercial vendors. In other instances, sales

verification is obtained from local appraisers or others that may have the desired information. Finally, closing statements are often provided during the hearings process. The actual closing statement is the most reliable and preferred method of sales verification.

## **VALUATION ANALYSIS**

Model calibration involves the process of periodically adjusting the mass appraisal formulae, tables and schedules to reflect current local market conditions. Once the models have undergone the specification process, adjustments can be made to reflect new construction procedures, materials and/or costs, which can vary from year to year. The basic structure of a mass appraisal model can be valid over an extended period of time, with trending factors utilized for updating the data to the current market conditions. However, at some point, if the adjustment process becomes too involved, the model calibration technique can mandate new model specifications or a revised model structure.

### ***Cost Schedules***

The cost approach to value is applied to improved real property utilizing the comparative unit method. This methodology involves the utilization of national cost data reporting services as well as actual cost information on local comparable properties whenever possible. Cost models are typically developed based on the Marshall Valuation Service which indicate estimated hard or direct costs of various improvement types. Cost models include the derivation of replacement cost new (RCN) of all improvements represented within the district. These include comparative base rates, per unit adjustments and lump sum adjustments for variations in property description, design, and types of improvement construction. This approach and analysis also employs the sales comparison approach in the evaluation of soft or indirect costs of construction. Evaluating market sales of newly developed improved property is an important part of understanding total replacement cost of improvements. What total costs may be involved in the development of the property, as well as any portion of cost attributed to entrepreneurial profit can only be revealed by market analysis of pricing acceptance levels. In addition, market related land valuation for the underlying land value is important in understanding and analyzing improved sales for all development costs and for the abstraction of improvement costs for construction and development. Time and location modifiers are necessary to adjust cost data to reflect conditions in a specific market and changes in costs over a period of time. Because a national cost service is used as a basis for the cost models, location modifiers and estimates of soft cost factors are necessary to adjust these base costs specifically for various types of improvements located in Shelby County. Thusly, local modifiers are additional cost factors applied to replacement cost estimated by the national cost service. Estimated replacement cost new will reflect all costs of construction and development for various improvements located in Shelby CAD as of the date of appraisal.

Accrued depreciation is the sum of all forms of loss affecting the contributory value of the improvements. It is the measured loss against replacement cost new taken from all forms of physical deterioration, functional and economic obsolescence. Accrued depreciation is estimated and developed based on losses typical for each property type at that specific age. Depreciation estimates have been implemented

for what is typical of each major class of commercial property by economic life categories. Estimates of accrued depreciation have been calculated for improvements with a range of variable years expected life based on observed condition considering actual age. These estimates are continually tested to ensure they are reflective of current market conditions. The actual and effective ages of improvements are noted in CAMA. Effective age estimates are based on the utility of the improvements relative to where the improvement lies on the scale of its total economic life and its competitive position in the marketplace. Effective age estimates are considered and reflected based on five levels or rankings of observed condition, given actual age.

Additional forms of depreciation such as external and/or functional obsolescence can be applied if observed. A depreciation calculation override can be used if the condition or effective age of a property varies from the norm by appropriately noting the physical condition and functional utility ratings on the property data characteristics. These adjustments are typically applied to a specific condition adequacy or deficiency, property type or location and can be developed via ratio studies or other market analyses.

The result of estimating accrued depreciation and deducting that from the estimated replacement cost new of improvements indicates the estimated contributory value of the improvements. Adding the estimated land value, as if vacant, to the contributory value of the improvements, indicates a property value by the cost approach. Given relevant cost estimates and market related measures of accrued depreciation, the indicated value of the property by the cost approach becomes a very reliable valuation technique.

### ***Income Models***

The income approach to value is applied to those real properties which are typically viewed by market participants as “income producing”, and for which the income methodology is considered a leading value indicator. The first step in the income approach pertains to the estimation of market rent on a per unit basis. This is derived primarily from actual rent data furnished by property owners and from local market surveys conducted by the district and by information from area rent study reviews. This per unit rental rate multiplied by the number of units results in the estimate of potential gross rent.

A vacancy and collection loss allowance is the next item to consider in the income approach. The projected vacancy and collection loss allowance is established from actual data furnished by property owners and local market survey trends. This allowance accounts for periodic fluctuations in occupancy, both above and below an estimated stabilized level. This feature may also provide for a reasonable lease-up period for multi-tenant properties, where applicable. The market derived stabilized vacancy and collection loss allowance is subtracted from the potential gross rent estimate to yield an indication of estimated annual effective gross rent to the property.

Next, a secondary income or service income is considered and, if applicable, calculated as a percentage of stabilized effective gross rent. Secondary income represents parking income, escalations, reimbursements, and other miscellaneous income generated by the operations of real property. The secondary income estimate is derived from actual data collected and available market information. The

secondary income estimate is then added to effective gross rent to arrive at an effective gross income, when applicable.

Allowable expenses and expense ratio estimates are based on a study of the local market, with the assumption of prudent management. An allowance for non-recoverable expenses such as leasing costs and tenant improvements may be included in the expenses. A non-recoverable expense represents costs that the owner pays to lease rental space. Relevant expense ratios are developed for different types of commercial property based on use and market experience. For instance, retail properties are most frequently leased on a triple-net basis, whereby the tenant is responsible for all operating expenses, such as ad valorem taxes, insurance, and common area and property maintenance. In comparison, a general office building is most often leased on a base year expense stop. This lease type stipulates that the owner is responsible for all expenses incurred during the first year of the lease. As a result, expense ratios are implemented and estimated based on observed market experience in operating various types of commercial property.

Another form of allowable expense is the replacement of short-lived items (such as roof or floor coverings, air conditioning or major mechanical equipment or appliances) requiring expenditures of lump sum costs. When these capital expenditures are analyzed for consistency and adjusted, they may be applied on an annualized basis as stabilized expenses. When performed according to local market practices by commercial property type, these expenses when annualized are known as replacement reserves. For some types of property, typical management does not reflect expensing reserves and is dependent on local and industry practices.

Subtracting the allowable expenses (inclusive of non-recoverable expenses and replacement reserves when applicable) from the annual effective gross income yields an estimate of annual net operating income to the property.

Return rates and income multipliers are used to convert operating income expectations into an estimate of market value for the property under the income approach. These include income multipliers, overall capitalization rates, and discount rates. Each of these multipliers or return rates are considered and used in specific applications. Rates and multipliers may vary between property types, as well as by location, quality, condition, design, age, and other factors. Therefore, application of the various rates and multipliers must be based on a thorough analysis of the market for individual income property types and uses. These procedures are supported and documented based on analysis of market sales for these property types.

Capitalization analysis is used in the income approach models to form an indication of value. This methodology involves the direct capitalization of net operating income as an indication of market value for a specific property. Capitalization rates applicable for direct capitalization method and yield rates for estimating terminal cap rates for discounted cash flow analysis are derived from the market. Sales of improved properties from which actual income and expense data are obtained provide a very good indication of property return expectations a specific market participant is requiring from an investment at

a specific point in time. In addition, overall capitalization rates can be derived and estimated from the built-up method (band-of-investment). This method relates to satisfying estimated market return requirements of both the debt and equity positions in a real estate investment. This information is obtained from available sales of property, local lending sources, and from real estate and financial publications.

Rent loss concessions are estimated for specific properties with vacancy problems. A rent loss concession accounts for the impact of lost rental income while the building is moving toward stabilized occupancy. The rent loss is calculated by multiplying the rental rate by the percent difference of the property's stabilized occupancy and its actual occupancy. Build out allowances (for first generation space or retrofit/second generation space as appropriate) and leasing expenses are added to the rent loss estimate. The total adjusted loss from these real property operations is discounted using an acceptable risk rate. The discounted value (inclusive of rent loss due to extraordinary vacancy, build out allowances and leasing commissions) becomes the rent loss concession and is deducted from the value indication of the property at stabilized occupancy. A variation of this technique allows a rent loss deduction to be estimated for every year that the property's actual occupancy is less than stabilized occupancy.

### ***Sales Comparison (Market) Approach***

Although all three of the approaches to value are based on market data, the Sales Comparison Approach is most frequently referred to as the Market Approach. This approach is utilized not only for estimating land value but also in comparing sales of similarly improved properties to parcels on the appraisal roll. As previously discussed in the Data Collection / Validation section of this report, pertinent data from actual sales of properties, both vacant and improved, is pursued throughout the year in order to obtain relevant information which can be used in all aspects of valuation. Sales of similarly improved properties can provide a basis for the depreciation schedules in the Cost Approach, rates and multipliers used in the Income Approach, and as a direct comparison in the Sales Comparison Approach. Improved sales are also used in ratio studies, which afford the appraiser an excellent means of judging the present level and uniformity of the appraised values.

### ***Final Valuation Schedules***

Based on the market data analysis and review discussed previously in the cost, income and sales approaches, the cost and income models are calibrated and finalized. The calibration results are keyed to the schedules and models in the CAMA system for utilization on all commercial properties in the district. Market factors reflected within the cost and income approaches are evaluated and confirmed based on market sales of commercial and industrial properties. The appraisers review the cost, income, and sales comparison approaches to value for each of the types of properties with available sales information. The final valuation of a property is estimated based on reconciling these indications of value considering the weight of the market information available for evaluation and analysis in these approaches to value.

### ***Statistical and Capitalization Analysis***

Statistical analysis of final values is an essential component of quality control. This methodology represents a comparison of the final value against the standard and provides a concise measurement of the appraisal performance. Statistical comparisons of many different standards are used including sales of similar properties, the previous year's appraised value, audit trails, value change analysis and sales ratio analysis.

Appraisal statistics of central tendency and dispersion generated from sales ratios are calculated for each property type with available sales data. These summary statistics including, but not limited to, the weighted mean, provide the appraisers an analytical tool by which to determine both the level and uniformity of appraised value of a particular property type. The level of appraised values can be determined by the weighted mean for individual properties within a specific type, and a comparison of weighted means can reflect the general level of appraised value.

The appraisers review every commercial property type annually through the sales ratio analysis process. The first phase involves ratio studies that compare the recent sales prices of properties to the appraised values of the sold properties. This set of ratio studies affords the appraiser an excellent means of judging the present level of appraised value and uniformity of the appraised values. The appraiser, based on the sales ratio statistics and designated parameters for valuation update, makes a preliminary decision as to whether the value level of a particular property type needs to be updated in an upcoming reappraisal, or whether the level of market value is at an acceptable level.

Potential gross rent estimates, occupancy levels, secondary income, allowable expenses (inclusive of non-recoverables and replacement reserves), net operating income and capitalization rate and multipliers are continuously reviewed. Income model estimates and conclusions are compared to actual information obtained on individual commercial and industrial income properties during the protest hearings process, as well as with information from published sources and area property managers and owners.

### **INDIVIDUAL VALUE REVIEW PROCEDURES**

#### ***Field Review***

The date of last inspection, extent of that inspection, and the Shelby County CAD appraiser responsible are listed in the CAMA system. If a property owner disputes the District's records concerning this data in a protest hearing, CAMA may be altered based on the credibility of the evidence provided. Normally, a new field check is then requested to verify this information for the current year's valuation or for the next year's valuation. In addition, if a building permit is filed for a particular property indicating a change in characteristics, that property is added to a work file for review

Commercial appraisers are somewhat limited in the time available to field review all commercial properties of a specific use type. However, a major effort is made by appraisers to field review as many

properties as possible or economic areas experiencing large numbers of remodels, renovations, or retrofits, changes in occupancy levels or rental rates, new leasing activity, new construction, or wide variations in sale prices. Field review of real property accounts is accomplished while business personal property is reviewed and inspected in the field. Additionally, the appraisers frequently field review subjective data items such as building class, quality of construction (known as cost modifiers), condition, and physical, functional and economic obsolescence factors contributing significantly to the market value of the property. In some cases field reviews are warranted when sharp changes in occupancy or rental rate levels occur between building classes or between economic areas. With preliminary estimates of value in these targeted areas, the appraisers test computer assisted values against their own appraisal judgment. While in the field, the appraisers physically inspect sold and unsold properties for comparability and consistency of values.

### *Office Review*

Office reviews are completed on properties subject to field inspections and are performed in compliance with the guidelines required by the existing classification system. Office reviews are typically limited by the available market data presented for final value analysis. These reviews summarize the pertinent data of each property as well as comparing the previous value to the proposed value conclusions of the various approaches to value. These evaluations and reviews show proposed value changes, income model attributes or overrides, economic factor (cost overrides) and special factors affecting the property valuation such as new construction status, and a three years sales history (USPAP property history requirement for non-residential property). The appraiser may review methodology for appropriateness to ascertain that it was completed in accordance with USPAP or more stringent statutory and district policies. This review is performed after preliminary ratio statistics have been applied. If the ratio statistics are generally acceptable overall the review process is focused primarily on locating skewed results on an individual basis. Previous values resulting from protest hearings are individually reviewed to determine if the value remains appropriate for the current year based on market conditions. Each appraiser's review is limited to properties in their area of responsibility by property type (improved) or geographic area (commercial vacant land).

Once the appraiser is satisfied with the level and uniformity of value for each commercial property within their area of responsibility, the estimates of value go to noticing. Each parcel is subjected to the value parameters appropriate for its use type.

### **PERFORMANCE TESTS**

The primary tool used to measure mass appraisal performance is the ratio study. A ratio study compares appraised values to market prices. In a ratio study, market values (value in exchange) are typically represented with the range of sale prices, i.e. a sales ratio study. Independent, expert appraisals may also be used to represent market values in a ratio study, i.e. an appraisal ratio study. If there are not enough examples of market price to provide necessary representativeness, independent appraisals can be used as indicators for market value. This can be particularly useful for commercial or industrial real

property for which sales are limited. In addition, appraisal ratio studies can be used for properties statutorily not appraised at market value but reflect the use-value requirement. An example of this are multi-family housing projects subject to subsidized rent provisions or other governmental guarantees as provided by legislative statutes (affordable housing) or agricultural lands to be appraised on the basis of productivity or use value.

Shelby CAD has adopted the policies of the IAAO STANDARD ON RATIO STUDIES, circa July 1999 regarding its ratio study standards and practices. Ratio studies generally have six basic steps: (1) determination of the purpose and objectives, (2) data collection and preparation, (3) comparing appraisal and market data, (4) stratification, (5) statistical analysis, and (6) evaluation and application of the results.

### ***Sales Ratio Studies***

Sales ratio studies are an integral part of estimating equitable and accurate market values, and ultimately property assessments for these taxing jurisdictions. The primary uses of sale ratio studies include the determination of a need for general reappraisal; prioritizing selected groups of property types for reappraisal; identification of potential problems with appraisal procedures; assist in market analyses; and, to calibrate models used to estimate appraised values during valuation or reappraisal cycles. However, these studies cannot be used to judge the accuracy of an individual property appraised value. The Shelby County Appraisal Review Board may make individual value adjustments based on unequal appraisal (ratio) protest evidence submitted on a case-by-case basis during the hearing process.

Overall sales ratios are generated by use type semi-annually (or more often in specific areas) to allow appraisers to review general market trends in their area of responsibility and for the Property Study from the Property Tax Division of the Comptroller's Office. The appraisers utilize desktop applications such as Access and EXCEL programs to evaluate subsets of data by economic area or a specific and unique data item. On the desktop, this may be customized and performed by building class and age basis. In many cases, field checks may be conducted to insure the ratios produced are accurate and the appraised values utilized are based on accurate property data characteristics. These ratio studies aid the appraisers by providing an indication of market activity by economic area or changing market conditions (appreciation or depreciation).

### ***Comparative Appraisal Analysis***

The commercial appraiser performs an average unit value comparison in addition to a traditional ratio study. These studies are performed on commercially classed properties by property use type (such as apartment, office, retail and warehouse usage or special use). The objective to this evaluation is to determine appraisal performance of sold and unsold properties. The appraisers average the unit prices of sales and average unit appraised values of the same parcels and the comparison of average value changes of sold and unsold properties. These studies are conducted on substrata such as building class and on properties located within various economic areas. In this way, overall appraisal performance is evaluated geographically, by specific property type to discern whether sold parcels have been selectively

appraised. When sold parcels and unsold parcels are appraised equally, the average unit values are similar. These sales and equity studies are performed prior to final appraisal and to annual noticing.

## **Minerals (Oil and Gas Reserves) Valuation Process**

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### **INTRODUCTION**

Appraisal Responsibility – Outside Appraisal Firm (Pritchard & Abbott, Inc.)

Minerals-in-place (oil and gas reserves) are real property. Appraisal of minerals, oil and gas reserves, is based on estimating the present value of the economically recoverable reserves of oil and gas. Mineral rights are property rights and may be separable property interests from the land surface property rights. Minerals being produced are a tangible asset and are appraised for ad valorem taxation. The valuation of minerals-in-place is based on estimating the discounted net present value of the oil and gas production over the economic life of the well(s). Basically, this method of valuation is an income approach using discounted cash flow analysis methodology. Oil and Gas Properties are also marketed based on proven reserves and the unit of comparison in this market is considered in barrels of oil or in cubic feet of natural gas. The market approach is based on sales of property based on barrels of proven reserves.

Mineral interests are commonly divided into property interests known as working interests and royalty interests. The valuation of this property begins with the valuation of the mineral lease and is divided into the property interests according to division orders for each lease. It is the goal and purpose of the CAD to identify every producing mineral property interest within the district and estimate the market value of each property interest listed on the roll.

### **Appraisal Resources**

- ***Personnel - The mineral property staff consists of outside appraisal firm (Pritchard & Abbott, Inc.). See also the attached Reappraisal plan submitted by Pritchard and Abbott, Part 2***
- **Data - A common set of data characteristics for each mineral property account in Shelby CAD is collected from the Texas Railroad Commission Records and data entered to the district's computer. The property characteristic data drives the computer-assisted mineral property appraisal system. Railroad Commission records are searched to discover new leases as of January 1 of the year and legal descriptions are gathered to determine the location of the lease within Shelby CAD jurisdictional boundaries. Records are also reviewed for changes in production for existing wells and for abandoned wells with salvage value for equipment, tanks, and tubular goods. Production history for each mineral lease is gathered from IHS Energy production records and from the Texas Railroad Commission. Division Orders on each lease are requested annually from lease operators and checked against the appraisal roll for accuracy of owner name, address, and ownership percentage interest. To assist with operating information, an annual Confidential Lease Operating Expense Survey is mailed to the operator of each active lease requesting lease-specific operating information on oil and gas pricing, operating expenses, and possible market sales of leases.**

To assist with the economic parameters influencing these properties, general economic data is gathered for the valuation process. The method of appraisal for minerals-in-place is the discounted cash flow method which looks at the net present value of operating the lease. Current interest rates, market rates of return and levels of discounting the investment are factors to consider when evaluating the returns necessary to attract investment capital for this type property. Capitalization rates are estimated based on data from the general market for oil and gas property. East Texas Intermediate Crude product prices are tracked on a daily basis from Plains Marketing, a regional product gathering and marketing company and the primary buyer for oil and gas produced in the area. Other capital market information and return rates for investors participating in the oil and gas market is taken from the Oil and Gas Journal, Ibbotson's SBBI Valuation Edition, Wall Street Journal, Mergent Bond Record, Moody's Corporate Bond Yield Averages, and Value Line Investment Survey "Ratings and Reports".

## **VALUATION AND STATISTICAL ANALYSIS (model calibration)**

### ***Pricing, Operating Expenses and Reserve Analysis***

Crude oil and natural gas prices are important information in the valuation of mineral property because these prices help determine income to the lease and are a significant factor in determining the economic life of the production from the lease. Price analysis and estimates for crude oil and natural gas produced is based on the previous year's average price as per Texas Property Tax Code (Sec. 23.175). Prices paid for production for each lease is analyzed and averaged to evaluate the estimated average for the area.

Lease operating expenses are estimated based on rendered information and actual operating cost and expense from surveys of lease operators in Shelby CAD. Decline curve analysis estimates the rate of production decline and is formulated using past production operating expenses and recent operating parameters such as water production, lease repairs, and secondary recovery efforts. Current operating income and expenses for the lease are considered and estimated in a discounted cash flow model to allow the appraiser to evaluate and estimate the net present value of producing oil and gas from the lease. Capitalization rates and discounting return rates are estimated for each lease based upon the particular risks inherent with production of oil and gas from that property. These risks may vary considerably from one lease to another depending on several factors influencing the production from that particular lease. The discounted cash flow model method will allow the appraiser to evaluate current market value of the lease based on the estimated recoverable reserves. This methodology is approved and recommended by the Property Tax Division of the Comptroller's Office and is a recognized method of appraisal by industry standards. We have utilized the discounted cash flow model to estimate the market value of each lease located in Shelby CAD.

### ***Value Review Procedures***

The method of value review for this type of property is based on the review of the factors estimated within the discounted cash flow analysis methodology such as the discount rate, product prices, and operating

expenses. Evaluation and verification of these economic factors as to their validity within current economic times and based on current capital requirements for investment in this type property is re-confirmed and reviewed for reasonableness. Sales of mineral properties are considered but adequate sale data is usually not available due to difficulty in confirming sales. The market for this type of property is neither an active nor an efficient market, there are very few participants and pricing information is mostly confidential. There is no central source for tracking these transactions and property owners are reluctant to reveal market information concerning prices paid or terms of the transaction. Because of a lack of market sales on mineral property, appraised values are regularly compared to similar properties within the same production field, field of exploration, strata of formation, or production history and expense level.

Ratio studies are a source of comparison to evaluation level and uniformity of appraisal. When market sales are available the ratio study is based on a comparison of the appraised value to the sale price. For mineral property, which lacks available market sales, a ratio study is a comparison of another appraisal opinion with the opinion of the district to determine level and uniformity of appraisal. The Property Tax Division of the Comptroller's Office conducts an annual ratio study of selected mineral properties to gauge the districts appraisal performance. The PTD utilizes the same valuation methodology to appraise individual mineral properties. This opinion of value is then utilized as market evidence with the same significance as if the property sold for that value. The estimated value of the property by Shelby CAD is compared to the appraisal by the PTD to calculate the ratio and the indicated level of appraisal. This study indicates the median and mean levels of appraisal for mineral property and is considered reliable as a review and evaluation tool.

## **Utility Property Valuation Process**

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### **INTRODUCTION**

Appraisal Responsibility – Outside Appraisal Firm (Prichard & Abbott, Inc.)

Utility properties are the tangible assets of various businesses including electric production, transmission, and distribution companies, railroads, petroleum product gathering and delivery pipelines, telephone and communication providers and others. The valuation of these properties is considered to be complex due to the involvement of both tangible and intangible property elements that comprise these businesses and due to the size of some of the utilities that are regional and national companies. The appraisal of these companies becomes complex when considering the valuation of the property as a unit in place, evaluating the property by the approaches to value at the company level. Once the estimated value of the unit is estimated, the estimated market value is allocated based on the tangible property assets that are located within Shelby CAD.

### **Appraisal Resources**

- **Personnel - *The utility property staff consists of outside appraisal firm (Pritchard and Abbott). See also the attached Reappraisal plan submitted by Pritchard and Abbott, Part 2***

Data - A common set of data characteristics for each utility property account in Shelby CAD is collected from the various government regulatory agency records, field inspections, and property owner renditions. This data is entered to the district's computer. Individual company financial information is gathered through industry specific governmental filings such as Federal Energy Regulatory Commission Reports, Securities and Exchange Commission 10-k filings, and Public Utility Commission publications. Other company information is gathered from annual reports, internal appraisals, and other in-house and industry publications. Property owner renditions are requested to document and list property owned and located in our particular jurisdictions (i.e.: track mileage, number of meters, pipeline size and mileage, substation and transmission capacity, etc.). The property characteristic data drives the computer-assisted appraisal of the property.

The appraisal of utility property utilizes three-approach analysis for form an opinion of value for the property. Financial and capital market information is pertinent to understanding factors affecting valuation of complex property. Gathering financial data to attempt to understand investor and corporate attitudes for capital return expectations giving considering return components such as current interest rates, capital debt structure, bond market rates, and capital supply and demand trends. These financial factors result in overall return rates and capital structure for these companies and affects capitalization rates. The weighted average cost of capital is the most commonly used method of estimating capitalization rates for utility properties. Capitalization rates are estimated using capital return expectations from various publications: Ibbotson's SBBI Valuation Edition, Wall Street Journal, Mergent Bond Record, Moody's Corporate Bond Yield Averages, Value Line Investment Survey "Ratings and Reports". Industry specific information is also gathered from web sites, publications, periodicals, and reference manuals. Shelby

CAD utilizes the weighted average cost of capital to estimate the capitalization rate for utility appraisal under the income approach.

## **VALUATION AND STATISTICAL ANALYSIS (model calibration)**

### ***Approaches to Valuation, Reconciliation***

Valuation of tangible assets for utility companies relies primarily on indications of value based on the cost and income approaches to value under the unit value approach. This methodology involves developing and estimating market value considering the entirety of the company's tangible assets and resolving an allocated value for that portion of specific tangible assets located in particular tax jurisdictions. The valuation opinion is based on three approach analysis utilized for the indicated unit appraisal of all company tangible assets, then an estimated allocation of unit value for only assets located in the district and particular jurisdictions. This methodology is approved and recommended by the Property Tax Division of the Comptroller's Office and is an accepted standard within the industry and appraisal community.

### ***Value Review Procedures***

Review of the valuation of utility property is based on verifying economic and financial factors utilized in the methodology as relevant to current capital markets and that these factors reflect current return expectations. Market sales of utility properties do occur and are a good source for comparison and review when the price of the tangible assets can be abstracted or allocated from the selling price. Typically, the sale of utility companies involves significant intangible property assets such as customer base, goodwill, favorable contracts, name recognition, etc. and the contributory value and allocation of these assets is subjective and unknown. In Texas, intangible property assets are exempt from taxation and must not be included on the appraisal roll as taxable property. Therefore, because of the lack of specific market information on sales of utility properties, appraised value is regularly compared to the valuation of similar property within the same set of property characteristics, business type and size. More of comparison for equity concerns on valuation rather than the full recognition of a market level certainty about appraisal level. Of course, the estimated value is based on recognized methodology for considering the valuation of these tangible assets, but true market confirmation of these factors may not be possible due to minimal market knowledge and experience.

Ratio studies are also a method of review for relevance of appraisal valuation to market value. Again, in the absence of full disclosure of prices paid and without the abstraction of prices paid for the tangible asset components from recent utility property acquisitions or sales, market-based analysis and review is not possible. Ratio studies for utility property must rely on a comparison of one appraisal opinion as the basis for the reasonable property valuation with the district's appraised value to determine the ratio for level and uniformity of appraisal. The PTD conducts the annual ratio study of selected utility properties to gauge the appraisal district's performance. The PTD utilizes the same valuation methodology to estimate appraisal valuations of utility properties and the results, when compared to the appraisal

valuation estimated by Shelby CAD for these properties yield ratios. This ratio study of certain utility properties indicates the level and uniformity of appraisal for this category of property.

## **MARKET AREAS**

### ***Market Factors that have bearing on value***

- Major Industries: Poultry Farms  
Oil and Gas Exploration  
Timber, Farm/Ranch
- Location Factors: Paved Road versus Unpaved Road,  
Location with respect to town; urban versus rural  
Accessibility to property
- Use Factors: Commercial versus residential use  
Unused or vacant  
Homogenous versus diverse use
- Economic Factors: Impact of Covid-19

### ***Center ISD***

Center ISD is the largest school district with respect to population. It contains the largest city which is the City of Center. There has been much emphasis on oil and gas exploration in Shelby County in the past five years and quite a few businesses that furnish supplies within this field have located within City of Center. There has been somewhat of a slowdown in the gas industry as of lately that could impact some of these commercial properties in the future. Centers ISD, as well as other schools within the district, have experienced growth from pipelines and other infrastructure.

The majority of commercial properties within Shelby County are located in City of Center. The City of Center has enacted zoning ordinances that stipulate commercial, industrial, and residential and mobile homes. This has aided in defining commercial market areas within the city. There has been an expansion along Hurst Street of the commercial market following the relocation of the Wal-Mart Super Center in the early 2000's. The market area has experienced commercial growth in the form of hotels especially in the area close to the John D. Windham Civic Center.

**The Center Square has seen some prosperity but still lags a bit behind other commercial areas in terms of growth. The renovation of square is ongoing and has been a cause for an adjustment to some of the commercial properties.**

Residential neighborhoods are very similar in nature within the City of Center. The nucleus of the majority is a mixture of older homes with part brick and wood frame houses. There are a few distinctive neighborhoods; Pine Street and John C Rogers Drive, Wulf Creek Subdivision, Moonbeam Drive, Greenwood Subdivision, Lakewood and Pine Terrace that have somewhat homogeneous structures. The southeastern portion of Center known as East Center lags behind the rest of Center in terms of growth with respect to commercial and residential.

Rural residential properties throughout the Center School District have similar values across the board. There are a couple of subdivisions outside the Center City limits that have homogenous neighborhoods; Magnolia Manor and Cedar Creek. The only discernible value difference in the remainder of the rural

residential market primarily goes back to factors mention earlier; location, access and paved versus dirt roads as well as the type of construction. The primary choice for most buyers seems to be 5 to 15-acre tracts at the present time. There are some larger tracts that have been sold by timber companies within the last few years but have not had a huge impact on values. The timber industry in general is in a lull with prices falling to all-time lows.

The southern portion of Center ISD that borders San Augustine ISD has seen some growth in gas production and infrastructure. There have been enough new wells that have come on line coupled with personal property associated with these wells that the district did not experience a steep decline this past year.

### ***Excelsior ISD***

This small rural school district is similar to the remainder of the county in the fact that its' primary makeup is of poultry farms, cattle ranches and timber tracts.

The primary residential market within Excelsior is similar to the county market as a whole with the exception of Lake Pinkston that supplies water for City of Center. Pinkston has experienced modest growth and land values with lake frontage have increased accordingly.

Gas production as well as gas distribution outlets and pipeline have increase in this school district in the past three years.

### ***Joaquin ISD***

Joaquin has been dependent on the gas industry for several years. The Travis Peak formation has been a source of revenue for this school district even before the Haynesville Shale came on the scene. Unlike the rest of the school districts Joaquin has the majority of its tax base tied to the oil and gas industry.

Due to the oil and gas industry, there has emerged a commercial strip with Joaquin's that primarily consists of several saltwater disposal injection wells. There is a tremendous influx of saltwater transported across the Texas-Louisiana border and brought into the Joaquin School district for disposal. This has had an impact on commercial land values along State Highway 84.

Joaquin also has the upper tier of Toledo Bend as its eastern boundary. The frontage is mainly Sabine River frontage but is a source of recreation for water sports and fishing. This is a definite influence on land and residential values.

The rest of the rural market is similar to the rest of the county. It is made up of poultry farms, cattle ranches and timber tracts.

### ***San Augustine ISD***

This is the smallest school district within Shelby County both is terms of geography size and value. Its primary makeup is timber tracts and poultry farms and some cattle. Rural residential properties are similar to the rest of the county.

### ***Shelbyville ISD***

This school district has the largest population of poultry farms within the county and additionally contains numerous cattle ranching operations. It also contains several large acreage timber tracts. Rural residential ownership is spread out over a large geographical region. The residential is similar to the rest

of the county with the exception of the eastern portion that borders Toledo Bend. There are several subdivisions that front the lake; Smokey Hollar, Lake Country Estates and Pretti Point that seem to be the most desired areas.

The Sabine National Forest runs through this school district and consists of about 60,000 acres within Shelby County.

The southern portion of this district that borders San Augustine County has seen a spike in oil and gas industry related activities. There have been several wells drilled in the last several years and pipeline and infrastructure continues to increase.

***Tenaha ISD***

The district's largest taxpayer is Pilgrim's Pride. The commercial feed mill is one of the largest single valued properties within the district. There is a modest growth in oil and gas infrastructure and related personal property. Commercial growth related to commercial retail businesses has been somewhat stalled for the past several years.

Residential valuations throughout the district are similar to other parts of the county. They are composed of farming, ranching and timber operations.

***Timpson ISD***

Timpson School District has experienced some oil and gas operation related value in recent years. The brunt of commercial retail within City of Timpson is located on State Highway 59.

The rural residential is similar to the rest of the county. There is a rural water district that owns land around Lake Timpson and the majority of property improvements are carried as improvement only in this area. It is similar to other lake property in the fact that the location makes it desirable.

The major industry that impacts the rural market is similar to other parts of the county. There are poultry farms, cattle ranches and timber tracts that are prevalent throughout the district.

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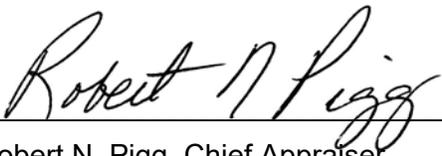
**LIMITING CONDITIONS**

The appraised value estimates provided by the district are subject to the following conditions:

1. The appraisals were prepared exclusively for ad valorem tax purposes.
2. The property characteristic data upon which the appraisals are based is assumed to be correct. Exterior inspections of the property appraised were performed as staff resources and time allowed. Some interior inspections of property appraised were performed at the request of the property owner and required by the district for clarification purposes and to correct property descriptions.
3. Validation of sales transactions was attempted through questionnaires to buyer and seller, telephone survey and field review. In the absence of such confirmation, residential sales data obtained from vendors was considered reliable. Sales information is limited and homogeneous neighborhoods are rare.

***Certification Statement:***

"I, Robert N. Pigg, Chief Appraiser for the Shelby County Appraisal District, solemnly swear that I have made or caused to be made a diligent inquiry to ascertain all property in the district subject to appraisal by me, and that I have included in the records all property that I am aware of at an appraised value which, to the best of my knowledge and belief, was determined as required by law."



Robert N. Pigg, Chief Appraiser