Basic Map Compilation

Course IV

Sponsored by

The Florida Association of Cadastral Mappers

In conjunction with

The Florida Department of Revenue

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August - 2000

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February - 2004

FLORIDA ASSOCIATION OF CADASTRAL MAPPERS

In conjunction with

THE FLORIDA DEPARTMENT OF REVENUE

Proudly Presents

COURSE 4

BASIC MAP COMPILATION

Origins of the Cadastre Concept

The term cadastre is probably derived from the Greek word *katastichon*, meaning notebook. In Latin, the term gradually evolved to *captastrum,* or register of territorial taxation units, in which Roman provinces were divided.

A **cadastre** may be defined as a record of interests in land, encompassing both the nature and the extent of these interests. An interest in land (or property right) may be narrowly construed as a legal right capable of ownership.

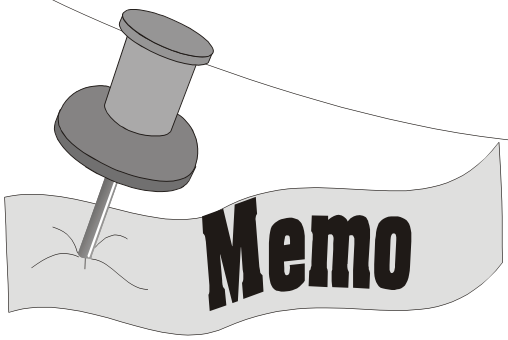
Precursory cadastral arrangements may be traced to the earliest agricultural settlements along the Tigris, Euphrates, and Nile Rivers. In the pristine Egyptian state, revenue for the Pharaohs and the priesthood were met principally be taxes on the land. For purposes of taxation, the land was measured and the boundaries demarcated. Clay tablets unearthed from the ancient ruins of Sumerian villages provide records of charges against the land, maps of towns and tracts of land, area computations, and most notably, court trials adjudicating ownership and boundary disputes. The Greeks and Romans established elaborate land record systems primarily in support of land taxation policies.

One of the most famous cadastral projects was the **Doomsday Book** of Norman England. The Doomsday Book was primarily a collection of facts about the land and its improvements made for fiscal purposes. The actual collection of data was carried out during 1085 - 1086 and covered all of England withthe exception of the four northern counties and the cities of London and Winchester. Similarly, Louis IV provided for the first measurement and assessment of French lands in 1115. The Milanese cadastre mapping program conducted between 1720 - 1723 was one of the earliest efforts to establish a fiscal cadastre in the modern sense.

Somewhat later, the Emperor Joseph II ordered a cadastral survey for the entire territory encompassed by the Austro-Hungarian monarchy. This survey was made over a period of five years (1785 - 1789) and resulted in

plans and descriptions of all individual land parcels in the monarchy. In 1807, Napoleon appointed the mathematician Delambre to carry out the task of surveying more than 100 million parcels, to classify, evaluate, and bring together under the name of each owner a list of all the parcels each owns to determine their total revenue; and to make of this assessment a record which should thereafter serve as the basis of future assessments.

In addition, it appears the Europeans developed an understanding and appreciation of the cadastre concept for purposes beyond taxation. The evolution of the legal or juridicial cadastre is from this period. The *juridicial cadastre* was conceived as a system for recording and retrieving information concerning *the tenure interests in the land,* whereas the fiscal cadastre identifies the people holding an interest **(taxroll)** in the land and the location **(maps)** of those interests.



1. **Compile:** to compose out of materials from other documents
(1a. Compose: to arrange in proper form)

2. **Cadastral**: showing property boundaries, subdivision lines, buildings or other related details for taxation purposes.

3. **Map**: a representation on a flat surface of the whole or part of an area.

******

<u>To compile a cadastral map</u> is to arrange in proper form, out of materials from other documents, property boundaries, subdivision lines, buildings, and other related details to represent on a flat surface the whole or a part of an area for taxation purposes.

Introduction

Basic Map Compilation is the last in a series of four courses prepared by the*Florida Association of Cadastral Mappers* (FACM) to provide students with the educational tools needed for competent cadastral mapping and to complete one of the requirements needed for the Certified Cadastralist of Florida (CCF) designation. However, FACM recommends the successful completion of Courses I, II, & III before attempting Basic Map Compilation.

In this course, the student will learn cadastral mapping as it relates to the Property Appraiser's Office. The Property Appraiser is required by Florida Statutes to maintain an accurate set of assessment maps. Whether the student is doing manual mapping or computer-aided mapping, an in depth understanding of compilation is the ground work for a good base map.

This text will review : "*Mathematics for the Cadastralist" . . . . . (Course I)*
"The Public Land Survey System" . . . . . (Course II)
"Interpretation of Real Property Descriptions" . . . (Course III)

While not everything will be covered in depth, the text will discuss those things necessary to complete this course. In addition, the class will review problems and how to resolve them.

When this course has been completed, the student will have successfully created a section using state plane coordinates, plotted out subdivisions, run metes and bounds, calculated acreage, resolved discrepancies, drawn curves, identified water lines, added annotation, and created a parcel numbering system.

<u>Equipment needed for this course are: (paper provided by FACM)</u>

Calculator	Pencils (green, red, black)	Protractor
Triangles - large and small/ 45 and 60		Engineering Scale
Erasing Shield		Compass
Misc tools as needed to map		Template for circles

Basic Map Compilation

Outline of Presentation

1. **Review** (Monday)
   - Chapter 1 - Mathematics for the Cadastralist
     - Problem Solving
   - Chapter 2 - Public Land Survey System
     - Problem Solving
   - Chapter 3 - Interpretation of Real Property Descriptions
     - Problem Solving
   - Chapter 4 - Additional Information
     - Coordinates/Problem Solving
     - Aerial Photographs
     - Plats

2. **The Map** (Tuesday - Thursday)
   - Chapter 5 - Compiling the map
   - a) Gather Information
     - Coordinates
     - Plats
     - Deeds
     - Aerial Photography
     - Right of Way Maps
     - Unrecorded documents
     - Additional recorded instruments as needed

   - b) Assemble supplies

Paper (provided)	Writing implements
Protractor	Compass
Engineering scale	Straight edges
Triangles 30/60 and 45	
Erasers	Erasing shields

Calculator (not scientific)
Templates (curves, elipse, bring your favorite)

Basic Map Compilation

Outline of Presentation (continued)

c) Plot the information

Create section corners and 1/4 corners
Divide Section and draw forty acre line
Plot Subdivision /Condo Boundaries
Plot Deeds
Create Roads
Draw lot lines
Add Annotation
Draw water lines
Plot any additional information
Calculate Acreage
Create Parcel Numbering System

d) Resolve conflicts

3. **Examination** (Friday)

a) true and false
b) multiple choice
c) fill in the blank
d) use your map to find the answer

Basic Map Compilation

The following references were used to develop this workshop:

Dimensions: A Guide to Describing Real Property
by First American Title Insurance Company

Florida Boundary Law Update
by Marshall G. Reissman and Walter G. Robillard

Fundamentals of Mapping: Course 6
by International Association of Assessing Officers

GW'S Workshop: Legal Descriptions and Survey Analysis
by Gordon H. Wattles

Introduction to Basic Manual Mapping
by Erma J. Thomas, CMS, MCF, CFE Chief Cartographer
Pinellas County Property Appraiser's Office

Land Survey Descriptions: by Gordon H. Wattles

Need For A Multipurpose Cadastre
by The National Research Council

Reading and Understanding D.O.T. Right-of-Way Maps
by Mapping Section of the Florida Department of Revenue

Resolving Discrepancies Between Records During Modernization of the Assessment Cadastre: by Cyril R. Smith

Surveying Theory and Practice, Fifth Edition
by Raymond E. Davis, MS CE D. Eng
Frabis S. Foote, EM & Joe W. Kelly, BS

Mathematics Course Review

Chapter 1

Table of Contents:

Figures:

Math for the Cadastralist

The Florida Association of Cadastral Mappers offers a course in Math for the Cadastralist. The purpose of that course is to provide a basic understanding of the math involved in creating assessment maps. This refresher class will review some of the information provided within that course.

History:

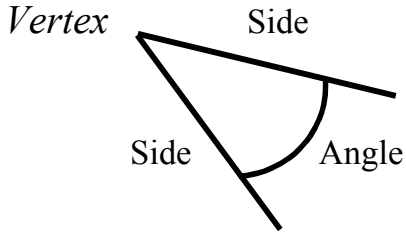
The art of mapping started as far back as the fifth or sixth century. Since the early decades of this century, map making has been closely associated with geography. The practice of mapping today is vastly different from that used by our ancestors, although there are some common bonds. It has become a respected discipline of its own. With rapid growth in the mapping field, it has separated into several different divisions, each with its own focus, technology, and education requirements.

Whether maps are computer generated or manually drawn, there are some basic fundamentals that must be learned. One part of these fundamentals is mathematics - angles, bearings, curves, and stationing. Mapping cannot be competently accomplished without a good understanding of them.

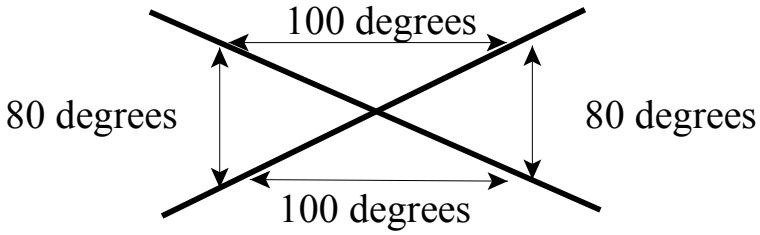
Angles:

All lines have a direction (angle or bearing), a size (length or distance), and a shape (straight or curved). This unit will discuss the angle of lines. An ***angle*** *is the measure of rotation between two different intersecting line segments.* A horizontal angle is an angle formed by the intersection of two lines in a horizontal plane. In a plane angle there are a maximum of 360 degrees . A triangle contains 180 degrees . Angles are usually expressed in degrees (°), minutes ('), and seconds ("). While there are additional separations (decimal seconds), seconds are as far as this class will examine.

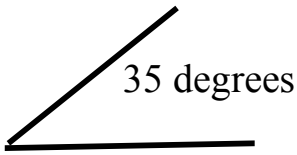
The name of the point where the angle is created by the two line segments is called the ***vertex***:



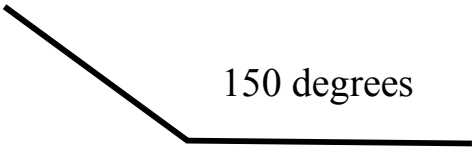
When two lines intersect, the opposite angles of the intersection are equal. See below:



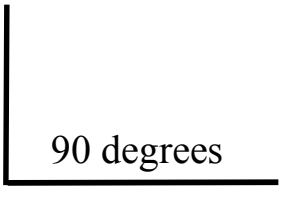
A right angle contains 90 degrees, while acute angles are those that are *smaller* than 90 degrees. Obtuse angles are those that are *greater* than 90 degrees, but *less than* 180 degrees. Two lines when turned to an angle of 180 degrees would form a straight line.



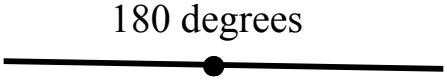
Acute angle



Obtuse angle



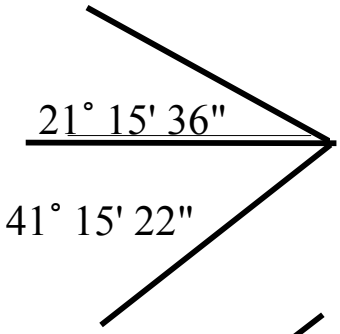
Right Angle



Straight lines

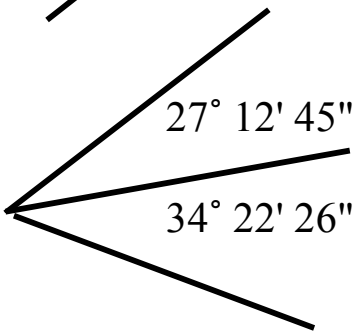
Addition of Angular Measurements
Examples:

1.



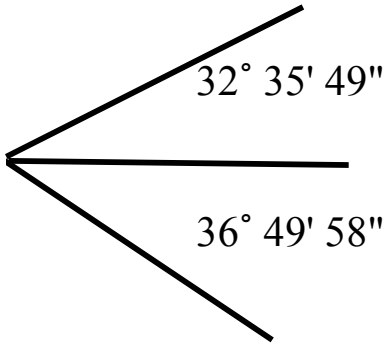
21˚ 15' 36"
41˚ 15' 22"
Ans: 62˚ 30' 58"

2.



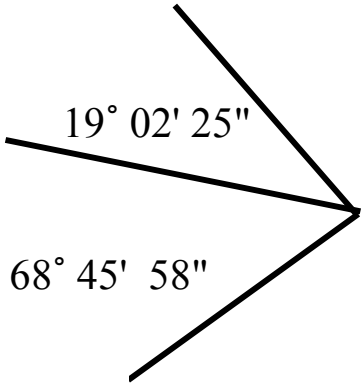
27˚ 12' 45"
34˚ 22' 26"
61˚ 34' 71"
+ 01' -60"
Ans: 61˚ 35' 11"

3.



32˚ 35' 49"
36˚ 49' 38"
68˚ 84' 87"
+ 01' - 60"
68˚ 85' 27"
+01˚ -60'
Ans: 69˚ 25' 27"

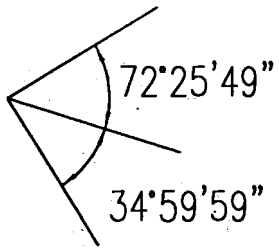
4.



19˚ 02' 25"
68˚ 45' 58"
87˚ 47' 83"
+01' -60"
Ans: 87˚ 48' 23"

Addition of Angular Measurements
Problems:

1.



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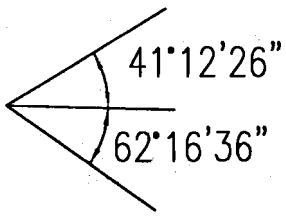

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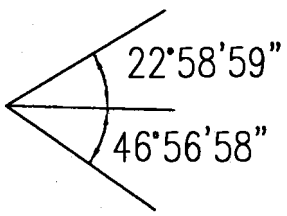

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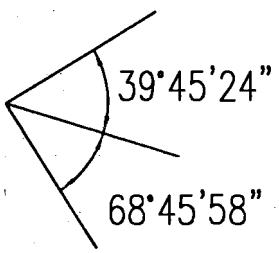

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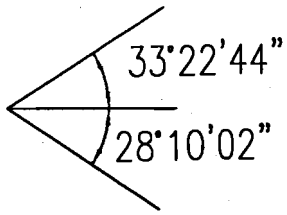

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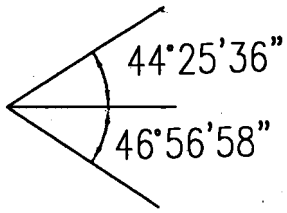

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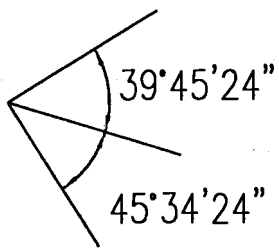

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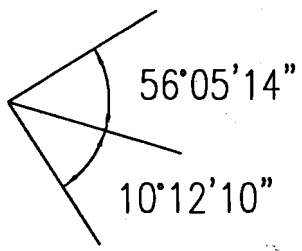
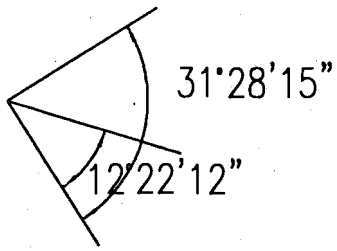


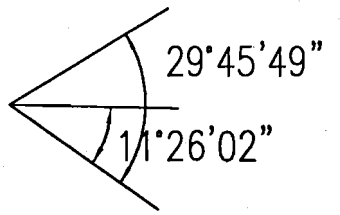
Subtraction of Angular Measurements
Examples:

1.



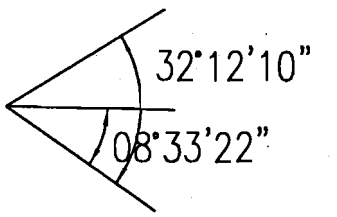
$$\begin{array}{r} 31^\circ\ 28'\ 15'' \\ -12^\circ\ 22'\ 12'' \\ \hline 19^\circ\ 06'\ 03'' \end{array}$$

2.



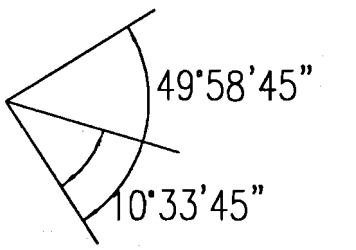
$$\begin{array}{r} 29^\circ\ 45'\ 49'' \\ -11^\circ\ 26'\ 02'' \\ \hline 18^\circ\ 19'\ 47'' \end{array}$$

3.



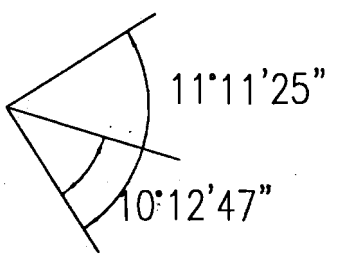
$$\begin{array}{r} 32^\circ\ 12'\ 10'' \\ -08^\circ\ 33'\ 22'' \\ \hline 23^\circ\ 38'\ 48'' \end{array}$$

4.



$$\begin{array}{r} 49^\circ\ 58'\ 45'' \\ -10^\circ\ 33'\ 45'' \\ \hline 39^\circ\ 25'\ 00'' \end{array}$$

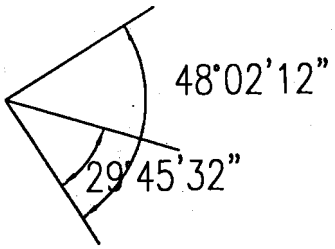
5.



$$\begin{array}{r} 11^\circ\ 11'\ 25'' \\ -10^\circ\ 12'\ 47'' \\ \hline 00^\circ\ 58'\ 38'' \end{array}$$

Subtraction of Angular Measurements
Problems:

1.



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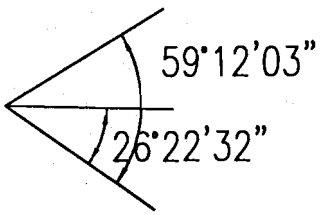

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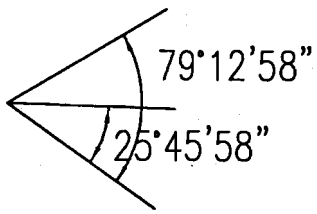

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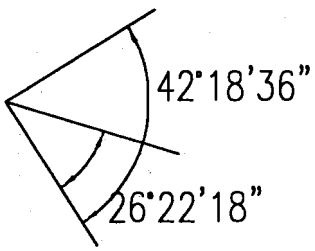

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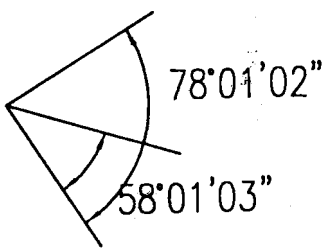

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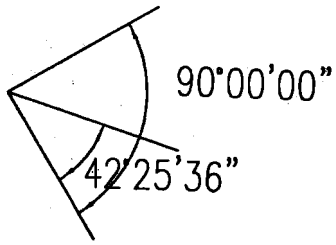

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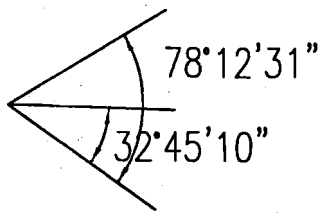

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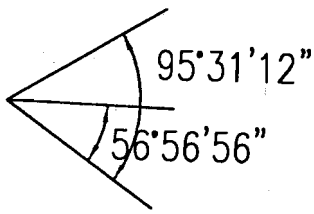

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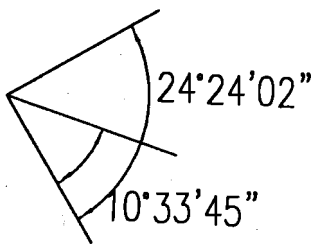

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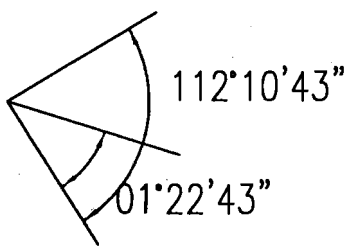
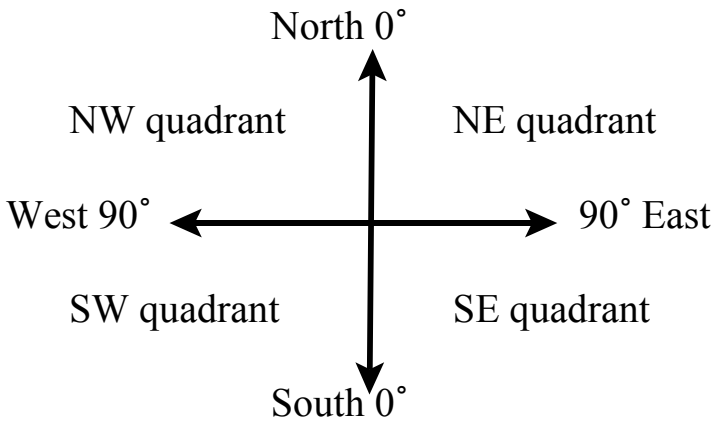


Bearings:

Now that we have reviewed the angle form of measurement, let us review the bearings derived from those angles. Historically and even today, bearings are the dominant method used to describe the direction of a line. *The **bearing** of a line is a statement of a line's direction*. It lies between "0" degrees on the north or south to "90" degrees on the east or west. The bearing is written along the line it describes.

Every surveyor's compass has four quadrants. No quadrant can exceed 90 degrees. See below:

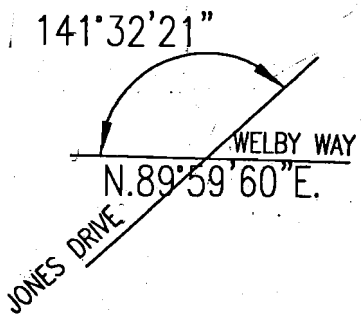


Therefore a call of "North 70 degrees East" would be determined by moving from the North at "0"degrees toward the East at "90"degrees and stopping at "70" degrees. If a line were due East - it would read N90˚00'00"E. However, it is seldom reflected in that manner. Most surveyors use "East" instead.

Maps and plats use bearings and angles in graphic presentations. Some times only angles appear on the documents, thus the cadastral mapper needs to know how to convert from one to the other. In some cases only the angles are shown.

Conversion of Angles to Bearings
Examples:

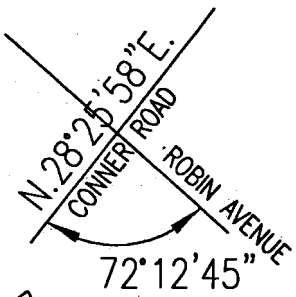
1.



$$\begin{array}{r} 141°32'21" \\ -90°00'00" \\ \hline 51°32'21" \end{array}$$

ANSWER: N.51°32'21"E.

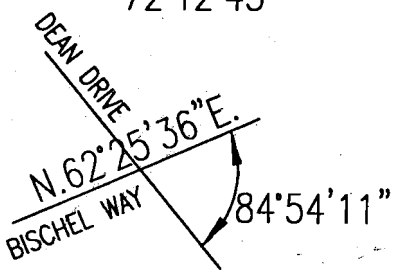
2.



$$\begin{array}{r} 72°12'45" \\ -28°25'58" \\ \hline 43°46'47" \end{array}$$

ANSWER: N.43°46'47"W.

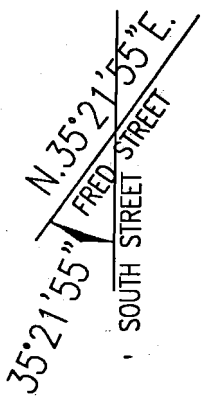
3.



$$\begin{array}{r} 179°59'60" \\ -84°54'11" \\ \hline 95°05'49" \\ -62°25'36" \\ \hline 32°40'13" \end{array}$$

ANSWER: S.32°40'13"E.

4.

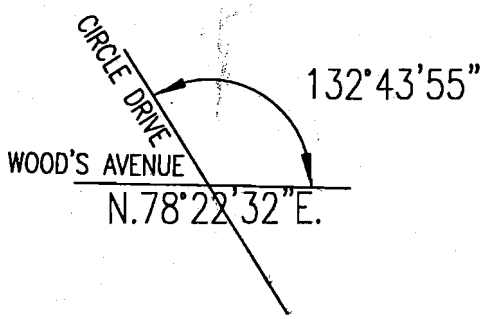


$$\begin{array}{r} 35°21'55" \\ -35°21'55" \\ \hline 00°00'00" \end{array}$$

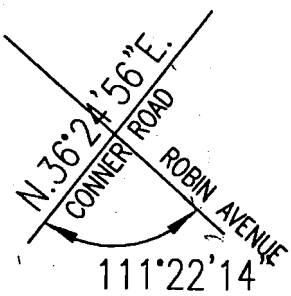
ANSWER: S.00°00'00"E. OR "SOUTH"

Conversion of Angles to Bearings
Problems:

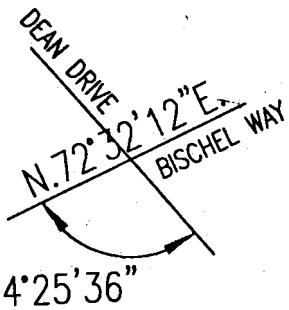
1.



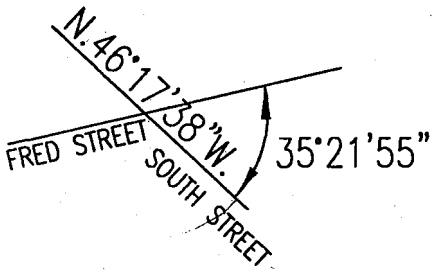
2.



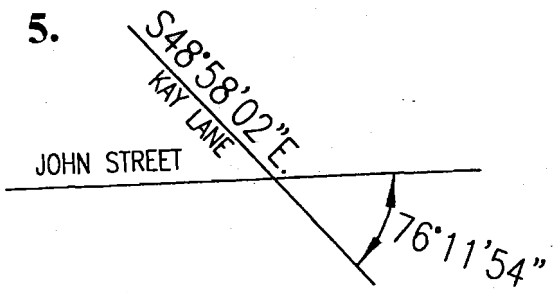
3.



4.

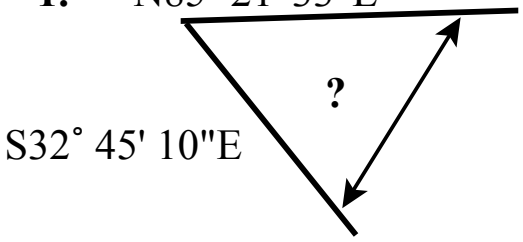


5.



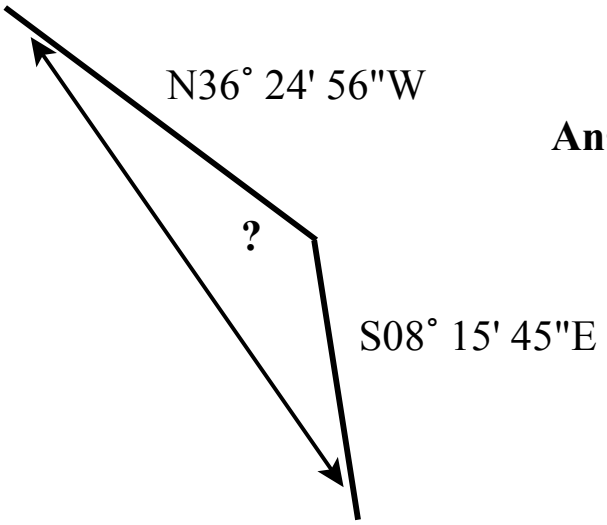
Conversion of Bearings to Angles
Examples:

1. N85˚ 21' 33"E



180˚ 00' 00"
-85˚ 21' 33"
94˚ 38' 27"
-32˚ 45' 10"
Ans: 61˚ 53' 17"

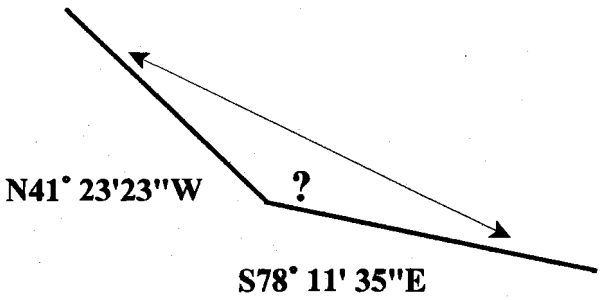
2.



180˚ 00' 00"
-36˚ 24' 56"
143˚ 35' 04"
+08˚ 15' 45"
Ans: 151˚ 50' 49"

Conversion of Bearings to Angles
Problems:

1.



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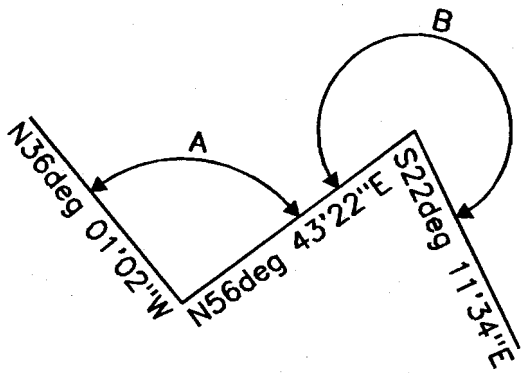
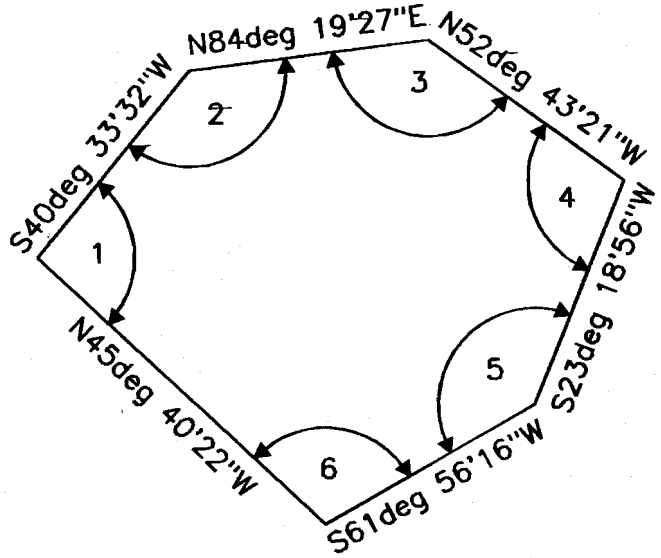


3.



Curve Components:

Besides their lengthy appearance in deeds or on maps, sometimes the most intimidating part of a description is the existence of a curve. The most frequently used curve in property descriptions is the ***plane circular curve*** which is simply a portion of the *arc of a circle*.

A. Radius is the distance from a point on the curve to the center of the circle. The radii are always of equal length.

B. Length of curve is the linear measurement of the arc.

C. Concavity is the inside or indented side of the curve. Conversely, the convex side of a curve is the outside, or the side away from the center. (Rarely used because it points away from the radius point)

D. Direction upon a curve is the general bearing along the curve (such as Northerly or Easterly, etc). Direction applied to concavity specifies the bearing from the concave curve at its midpoint to the center of the circle.

E. Tangency occurs in a curve when the radius of the curve touches (point of curvature) a line and at that point makes an angle of 90 degrees with the line.

F. Radial bearings are furnished if a curve is <u>not</u> tangent to a course at the point of intersection thereof. The length and bearing of the radius must be given to determine the center of the circle.

G. The deflection angle is *always* equal to the delta angle (same as central angle).

H. The deflection angles between the tangents and the long chord are *always* equal and are each one-half of the delta (central) angle.

The correlated parts known as the elements of a curve are: *radius, arc length, central or delta angle, tangent, and chord.* Most of the time a plane circular curve can be fully determined by two of its elements. The radius and central angle are the two preferred elements - from these all other elements can be determined.

Types of curves:

A simple curve is the arc of a circle of a given radius.

Compound curves are a group of two or more segments of arc. They have a common radial line at the point of contact, different lengths of radius and the centers of the arcs are on the same side of the curve. Refer to Figure 1.1 - Page 15.

A spiral curve is a collective group of multiple compound curves having radii of successively decreasing or increasing lengths.

Curves are reverse if they have a common radial line at the point of reverse and the centers of the arcs are on opposite sides of the curve. Refer to Figure 1.2 - Page 16.

Curves are tangent if they have a common radius or radial line at the point of contact. Refer to Figure 1.3 - Page 17.

Railroad and Highway Curves:

With the railroads becoming increasingly important in the 1800's the use of curves became much more necessary. The railroads defined the radii of their curve as a relationship between the length of a long chord to the degree of change in direction. The "Railroad Definition Curve" says a one degree curve has the long chord length of 100 feet. The radius of a one degree railroad curve is 5729.6507.

The highway builders of the early and mid 1900's said that they wanted to retain the traditional methods, because they had a good relationship between the arc length and the amount of change in direction of the curve. The "Highway Definition Curve" is based on the *radius of a one degree change in direction equals an arc length of one hundred feet*. The radius of a one degree highway curve is **5729.5780.** Remember that as the degree of curve increases the radius length decreases. Most curves found in current deeds, plats, etc. are all simple highway curves.

The formula used to find the **radius** of a curve when the degree of curve is given: *5729.578 divided by degree of curve = radii length.*

Ex: 5729.578 ÷ 30 = 190.986

The formula used to find the **arc length** when the degree of curve is given: (*delta divided by degree of curve) x 100 = arc length.*

Ex: (30 ÷ 22 = 1.3636) x 100 = 136.3636

The formula to find the **delta angle** when the arc length and degree of curve are given: *(arc length divided by 100) x degree of curve = delta angle*

Ex: (136.3636 ÷ 100 = 1.3636) x 22 = 30

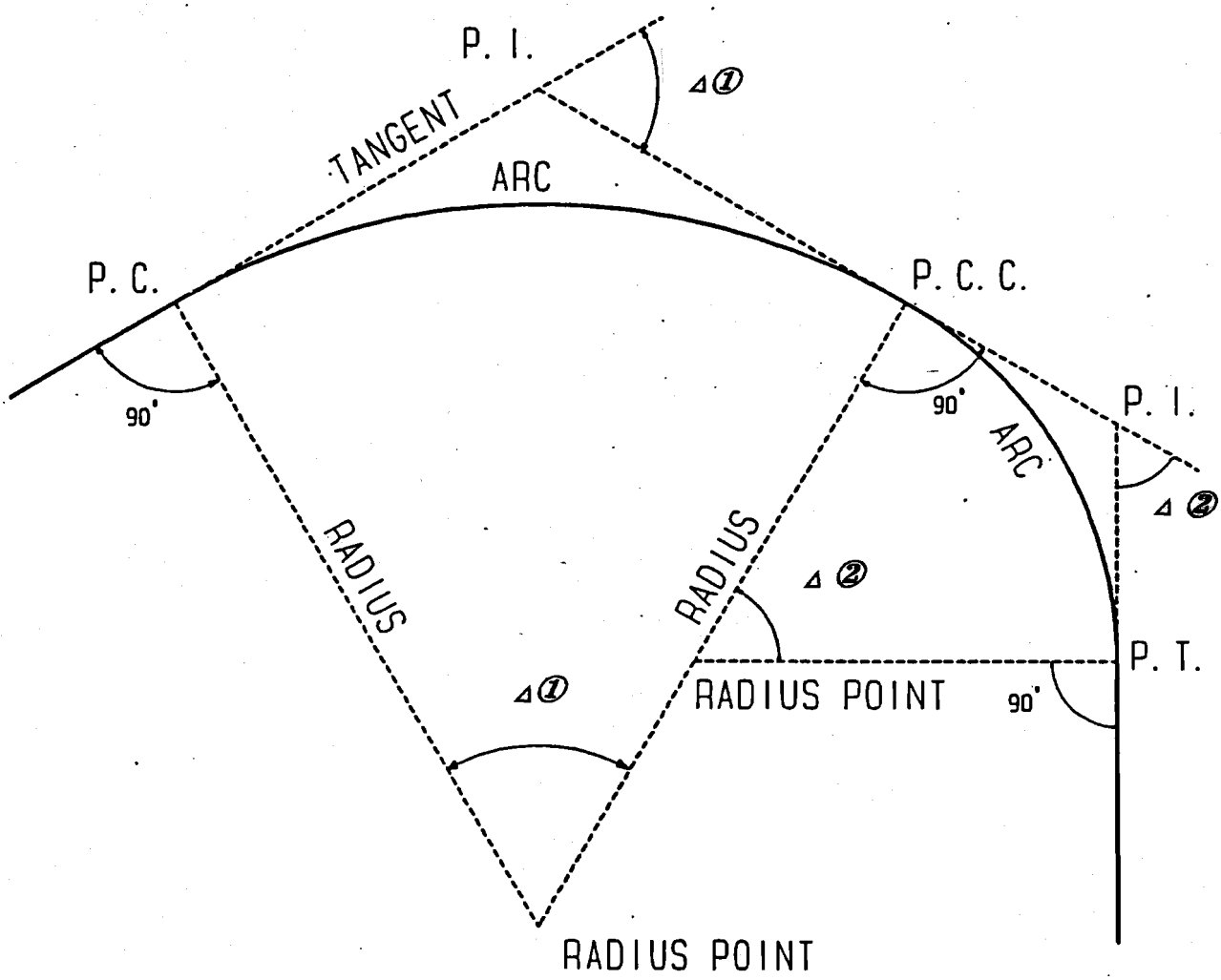


Figure 1.1 Compound Arcs

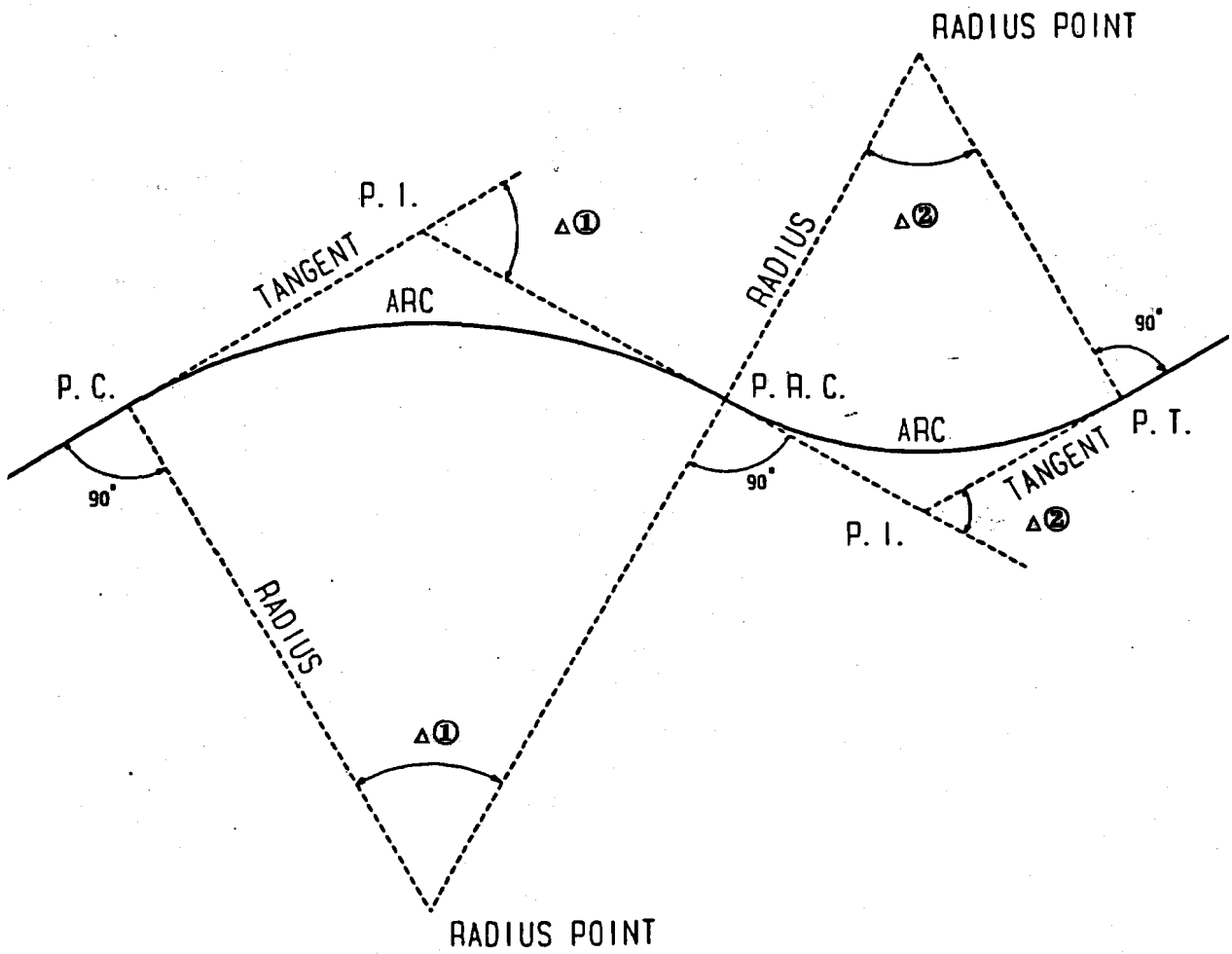


Figure 1.2 Reverse Arcs

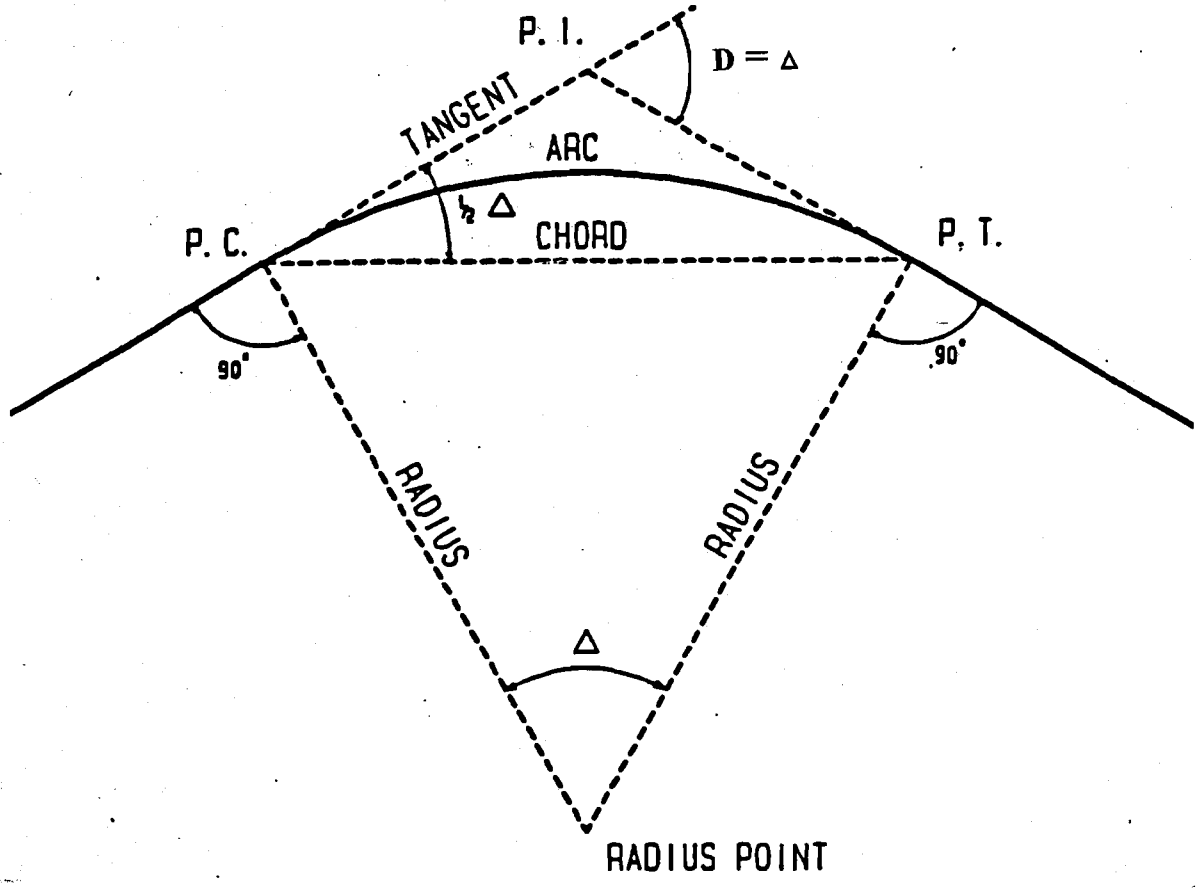


Figure 1.3 Components of a Tangential Arc

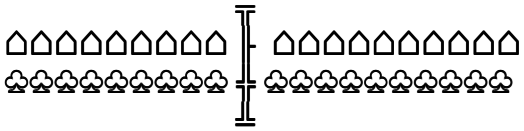
Inches	Feet	Yards	Rods	Miles
12	1	1/3	0	0
36	3	1	0	0
198	16 ½	5 ½	1	0
63360	5280	1760	320	1

Feet	Yards	Rods	Acres	Miles
272 1/4	30 1/4	1	0	0
10890	1210	40	0	0
43560	4840	160	1	0
0	0	0	640	1

****

7.92 inches = 1 link
25 links = 1 rod
4 rods = 1 chain
10 sq chains = 1 acre
160 sq rods = 1 acre
640 acres = 1 sq mile
36 sq miles = 1 township
(6 miles square)

One acre is about 8 rods by 20 rods or any two numbers (of rods) whose product is 160.



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1 Rod = 16 ½ feet or 5 ½ yards or 25 links
1 Sq Rod = 272 1/4 sq ft or 30 1/4 sq yds
1 Chain = 66 feet or 4 rods or 100 links
1 Furlong = 660 feet or 40 rods
1 Mile = 320 rods or 80 chains or 5280 feet
1 Acre = 43560 sq ft or 160 sq rods or 10 sq chains
1 Acre = 70 yds x 70 yds or 208.71 ft x 208.7

****

Lots Per Acre assuming typical grid for Streets and Alleys

Lot Size	Lots per Acre
40 x 100	6.28
45 x 125	6.11
50 x 125	5.68
50 x 150	4.74
60 x 175	5.48
60 x 200	3.10
70 x 175	3.00

Scale Conversion Formulae

$$\text{Ft/In} = \frac{\text{Scale}}{12}$$

$$\text{Mi/In} = \frac{\text{Scale}}{63360}$$

$$\text{In/Mi} = \frac{63360}{\text{Scale}}$$

Figure 1.6 - Measurement Length Relationships

Stationing:

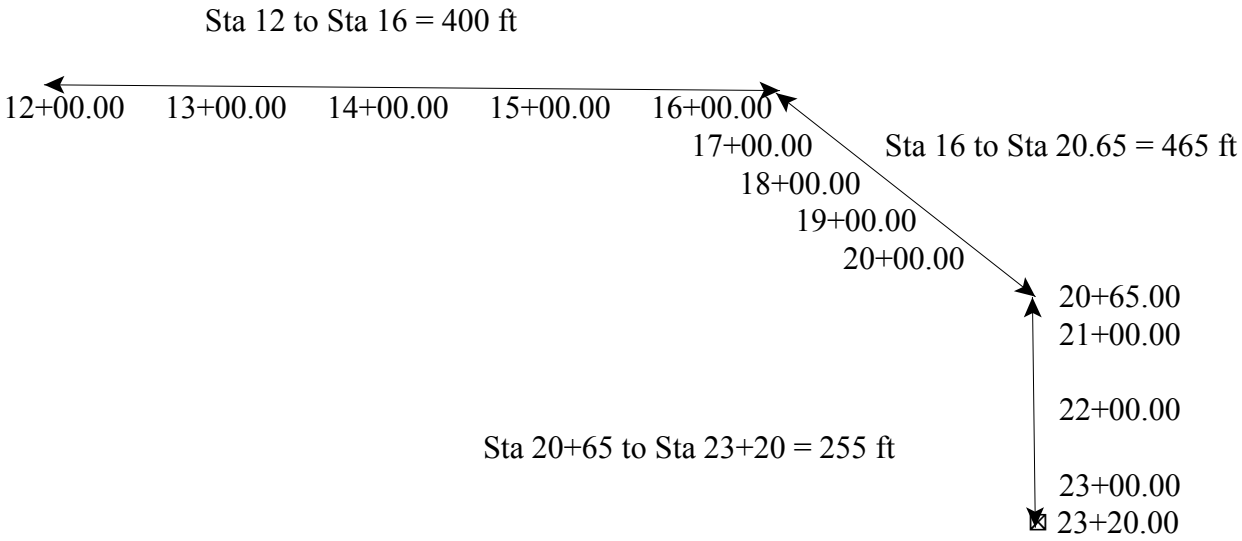
Stationing is used on Department of Transportation right of way maps to facilitate the tieing and depicting of numerous features to the traverse or survey lines. Stationing provides a location along a survey line and/or centerline of road. The key to understanding stationing is to know that one station = 100 feet (Example: Sta. 2+ 00.00 is 100 feet from Sta. 1+00.00)

To determine distances between stations, you simply subtract one from the other. (See examples below)

Sta. 2+00.00	Sta. 202+00.00	Sta. 20+50.25
-Sta. 1+00.00	-Sta. 201+00.00	-Sta. 18+00.00
100.00ft	100.00ft	250.25ft

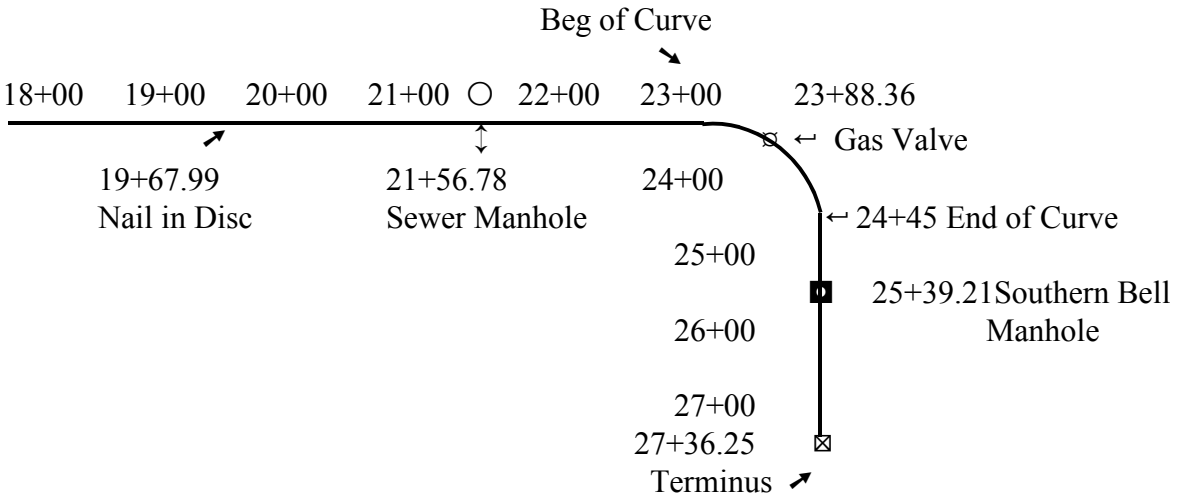
Another example:

Haley's Haven - Base line for Sewer/Sanitary



Case problem # 1:

Callander Boulevard



1. Find the distance between the:

    a. Gas Valve and the Sewer Manhole_____

    b. Southern Bell Manhole and the terminus_____

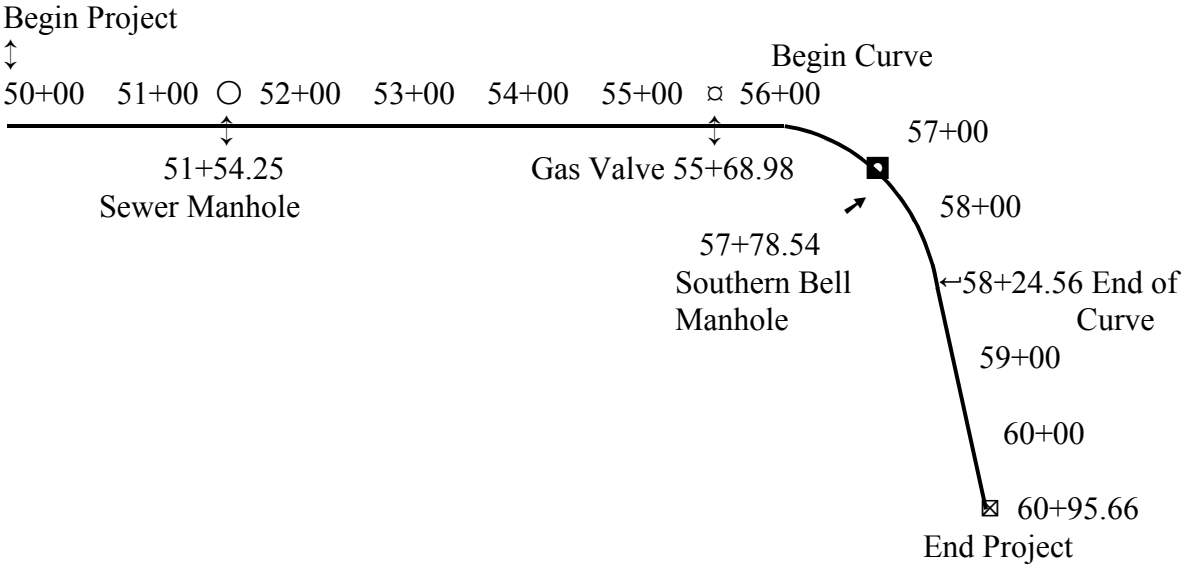
    c. Nail in Disc and Beginning of Curve_____

2. How long is the curve?_____

3. How long is the street from beginning to end?_____

Case Problem # 2:

Bates Drive



4. Find the distance between the:

   a. Sewer Manhole and End of Project_____

   b. Gas Valve and End of Curve_____

   c. Southern Bell Manhole and Beginning of Curve_____

5. What is the total length of the project?_____

Abbreviations:

For a long time different abbreviations were used for the same thing, but the public was getting confused over what these abbreviations were indicating.

The Board of Professional Surveyors and Mappers came up with the requirement that should the drawing reflecting the field survey contain a non-common place abbreviation, the surveyor and mapper will place on that drawing an explanation of the abbreviations. The actual code follows:

"5J-17.051 Minimum Technical Standards: General Survey, Map, and Report Content Requirements."

(3) Surveys, Maps, and/or Survey Products Content.

(b) Surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

(11) Abbreviations general used by the public or in proper names that do not relate to matters of survey are excluded from the legend requirement.

a. Acceptable abbreviations on the face of survey maps are:

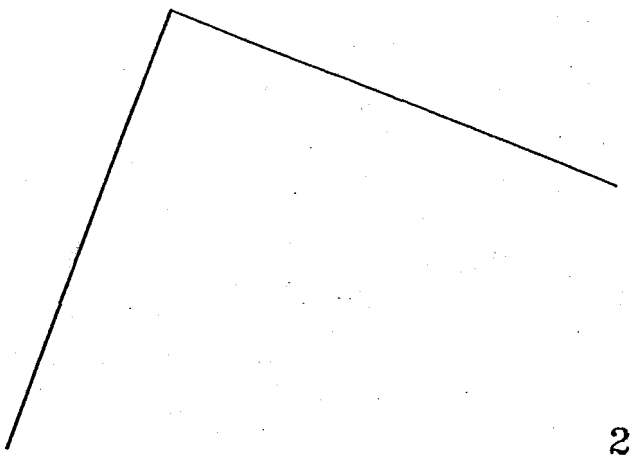
N = North
S = South
E = East
W = West
or any combination such as NE, SW, etc.
° = Degrees
‘ = Minutes when used in a bearing
“ = Seconds when used in a bearing
‘ = Feet when used in a distance
“ = Inches when used in a distance
AC = Acres
+/- = More or less (or Plus or Minus) metric notation

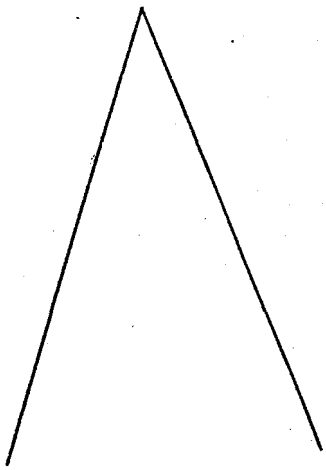
b. Any other abbreviations relating to survey matters must be clearly shown within a legend or notes appearing on the face of the map or report.

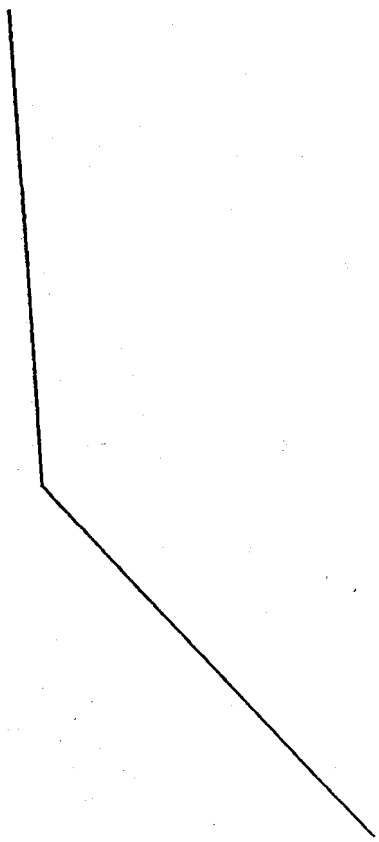
Abbreviation	Description	Definition
PC	Point of Curvature	the beginning of a curve which is tangent to the preceding course
T	Tangent	each curve has two tangents - always of equal length - one at the beginning of the curve and one at the end of the curve - always at 90 degrees to the radius
PI	Point of Intersection	the point where the tangents intersect
D	Deflection Angle	angle created between the continuations of the two tangents (angle at the PI) Same as Delta or Central Angle
PT	Point of Tangency	the point at the end of the arc where it touches the next course
A	Arc (length)	the linear measurement of an arc from the PC to the PT
LC	Long Chord	a straight line run from the PC to the PT
R	Radius	a straight line from the center of a circle to any point on the arc; radii are always of equal length; radii always form a 90 degree angle with the tangents at the PC and PT

Abbreviation	Description	Definition
D or Δ	Delta (Central) Angle	the angle formed by the intersection of the radii at the center of a circle; the deflection angle at the PI is equal to D
LCB	Long Chord Bearing	bearing of the long chord

FIND THE INTERIOR ANGLES OF THE FOLLOWING:

1. 

2. 

3. 

4. 

Sectional Based Descriptions

Chapter 2

Table of Contents:

Figures:

Exercises: Plotting & Acreage

The Public Land Survey System

Under the Confederation, Congress was deeply in debt to France and had no power to levy any taxes. Millions of dollars in continental bills and treasury notes were outstanding and the Northwest Territory loomed as the only asset which might be turned into hard currency. Lands within the public domain could be sold to settlers returning millions of dollars to the treasury.

The Land Ordinance of 1785 directed that the public land of the United States be surveyed and subdivided according to a system that incorporated spherical coordinates for the primary lines and rectangular coordinates for the secondary lines. Although other laws have since expanded the system, clarified the surveying methods, and changed some procedures, the system is basically as it was in 1785.

The plan as developed was unique in three respects.

1. It introduced the new principle of "survey before settlement".
2. It introduced the concept of a mathematically designed and nationally integrated cadastral survey.
3. It created a standard unit, the township, and standard subunit, the section, of uniform shape and area with the lines physically marked on the ground.

The system of rectangular surveys and the laws governing its establishment have, with various modifications, been applied to all of the United States with the exception of Kentucky, Tennessee, West Virginia, Texas, Hawaii, and the original thirteen colonies. The surveys were performed by private persons (Deputy Surveyors) and the Bureau of Land Management (BLM) and continue to be done by them in Alaska. (Refer to Figure 2.1)

Design of the Overall Public Land Survey System (PLSS)

Land that has been surveyed in accordance with the PLSS is referred to as sectionalized and the descriptions that use this method are called sectionalized based descriptions.

The correct sequence order for a description based on the PLSS would be the government lots, the sectional subdivisions (aliquot parts), section, township, range, and principle meridian.

The basic unit of the rectangular system is called the **township**. A township is bounded by two parallels of latitude and two meridians of longitude. Because meridians converge, townships are not perfectly square. Think about a basketball. Notice the lines between the various sections of the basketball, as it was constructed, which make it round. Those are meridians. Notice how they merge at the "poles" of the basketball. (See Figure 2.2)

Independent points of origin called **initial points** have been established across those portions of the United States covered by the PLSS. A true meridian called the **principle meridian**, and a true parallel called a **base line**, pass through each initial point. The areas referenced by a principle meridian and a base line vary in size from a portion of a state to several states. (See Figure 2.3)

To allow for convergence of meridians, secondary control lines are located at 24 mile intervals. The east -west control lines are called standard parallels and the north-south control lines are called guide meridians. (See Figure 2.4)

Range lines (true meridians) are located at six (6) mile intervals on a standard parallel and extend *north or south* to the next standard parallel. **Township lines** (true parallels) are located at six (6) mile intervals and extend *east and west*. They pass through the principle meridian, guide meridians, and range lines. These range and township lines define areas approximately six miles square. (See Figure 2.5)

A Township/Range is further subdivided into thirty-six (36) one mile square units called "**sections**". (See Figure 2.6) Each of these sections can be further divided into various "**aliquot parts**". Government laws do not give legal credence to divisions smaller than quarter/quarter (40 Ac) sized parcels, but descriptions continue to be written down to a quarter acre parcel.

Ideally, twenty-five of the thirty-six sections would contain 640 acres each. The sections along the north and west boundaries contain all the irregularities in measurements due to convergence. Each section in this area contains fractional lots (1-4) along the north and fractional lots (4-7) along the west boundary. (See Figure 2.7) Fractional lots can also result from irregular boundaries caused by meandering water bodies, grants, indian reservations, etc. (See Figure 2.8 - water bodies and Figure 2.9 - grants and Figure 2.10 - omitted lands)

Meander lines typically run along the mean high water (MHW) or ordinary high water (OHW) mark in a series of straight lines. Meander lines do not usually serve as title lines; they are primarily for surveying and mapping the water body. If section corners are located in navigable bodies of water, meander lines are established roughly parallel to the water line. (See Figure 2.11)

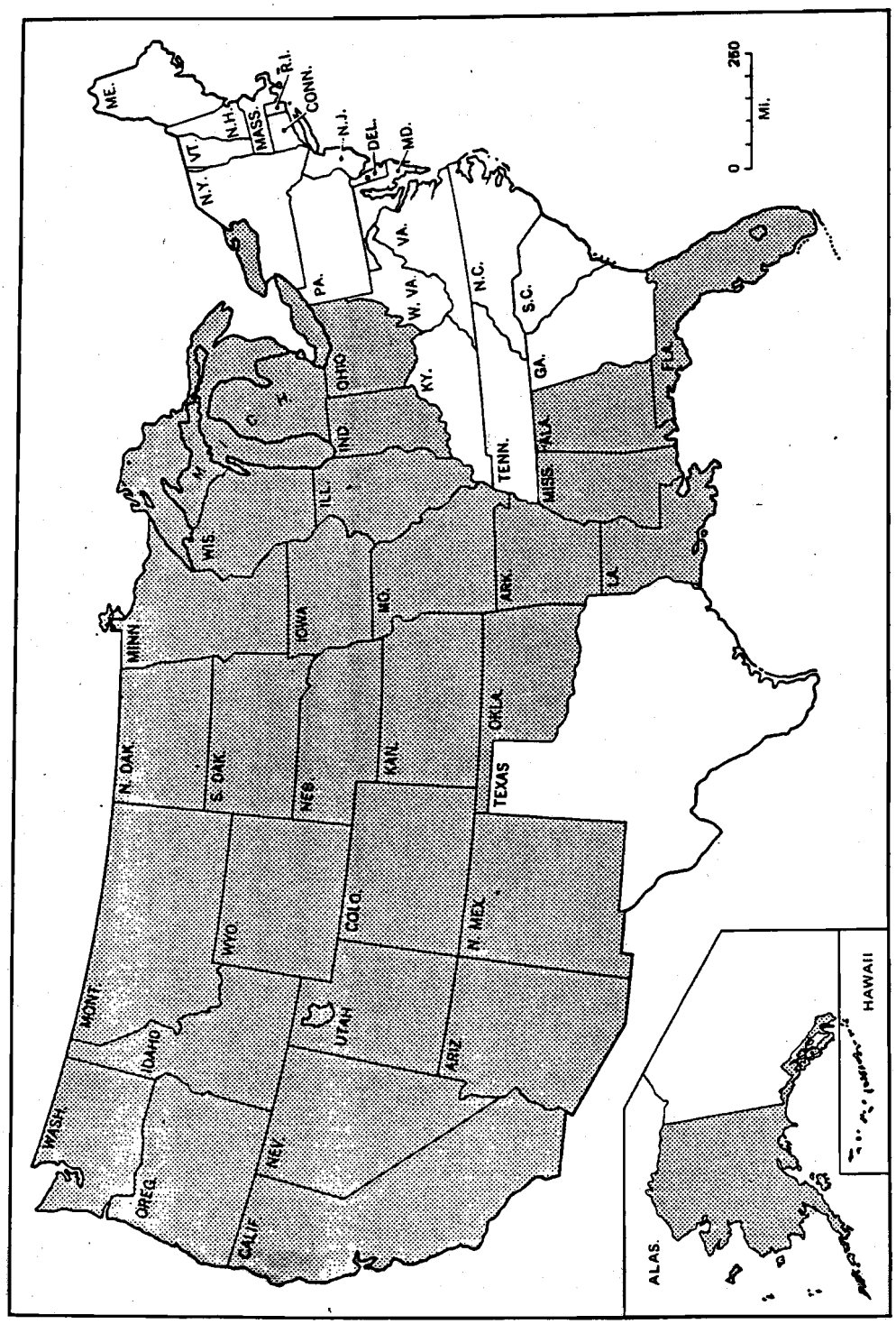


Figure 2.1 Public Land Survey System States

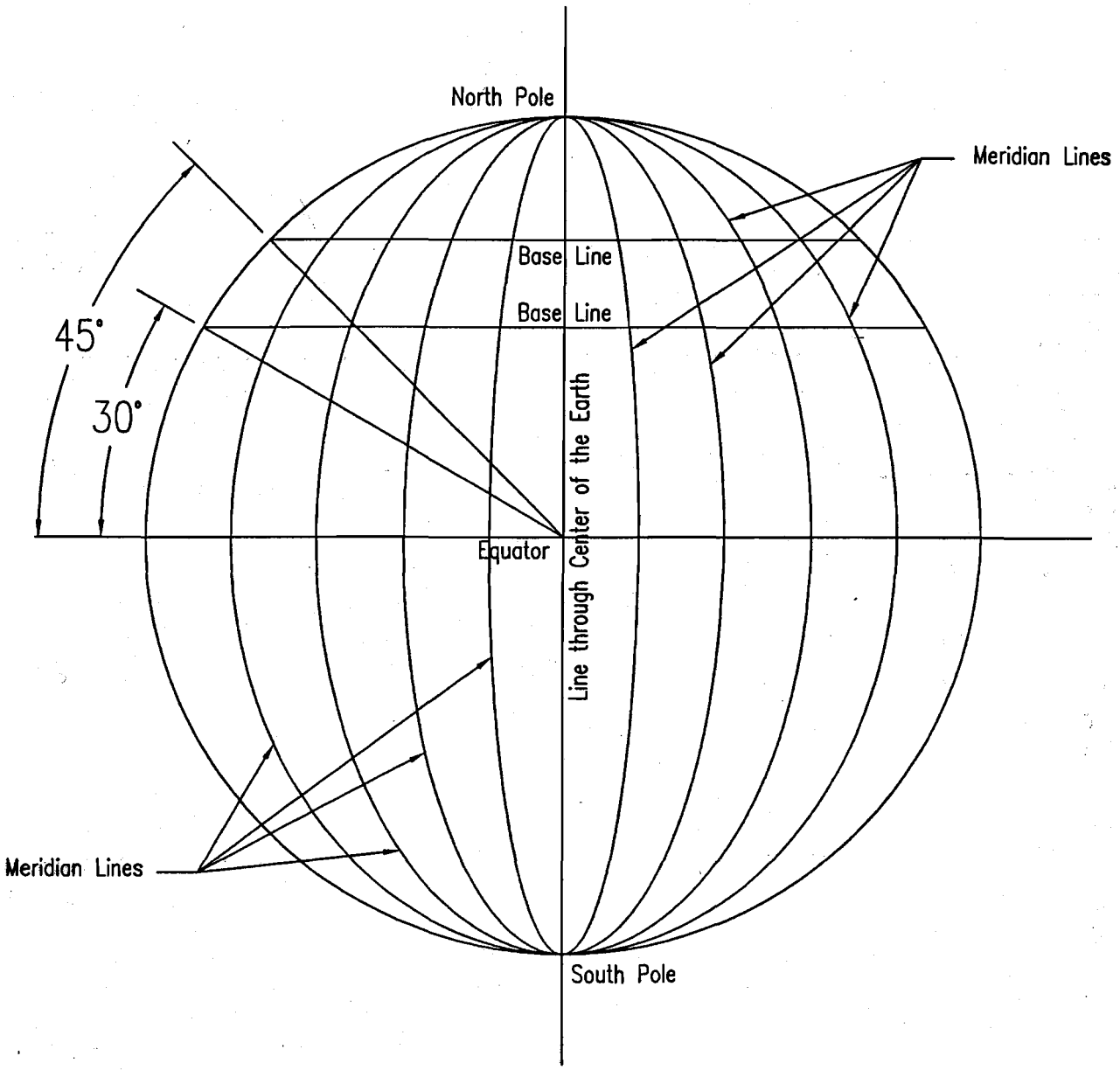


Figure 2.2 Meridian Lines

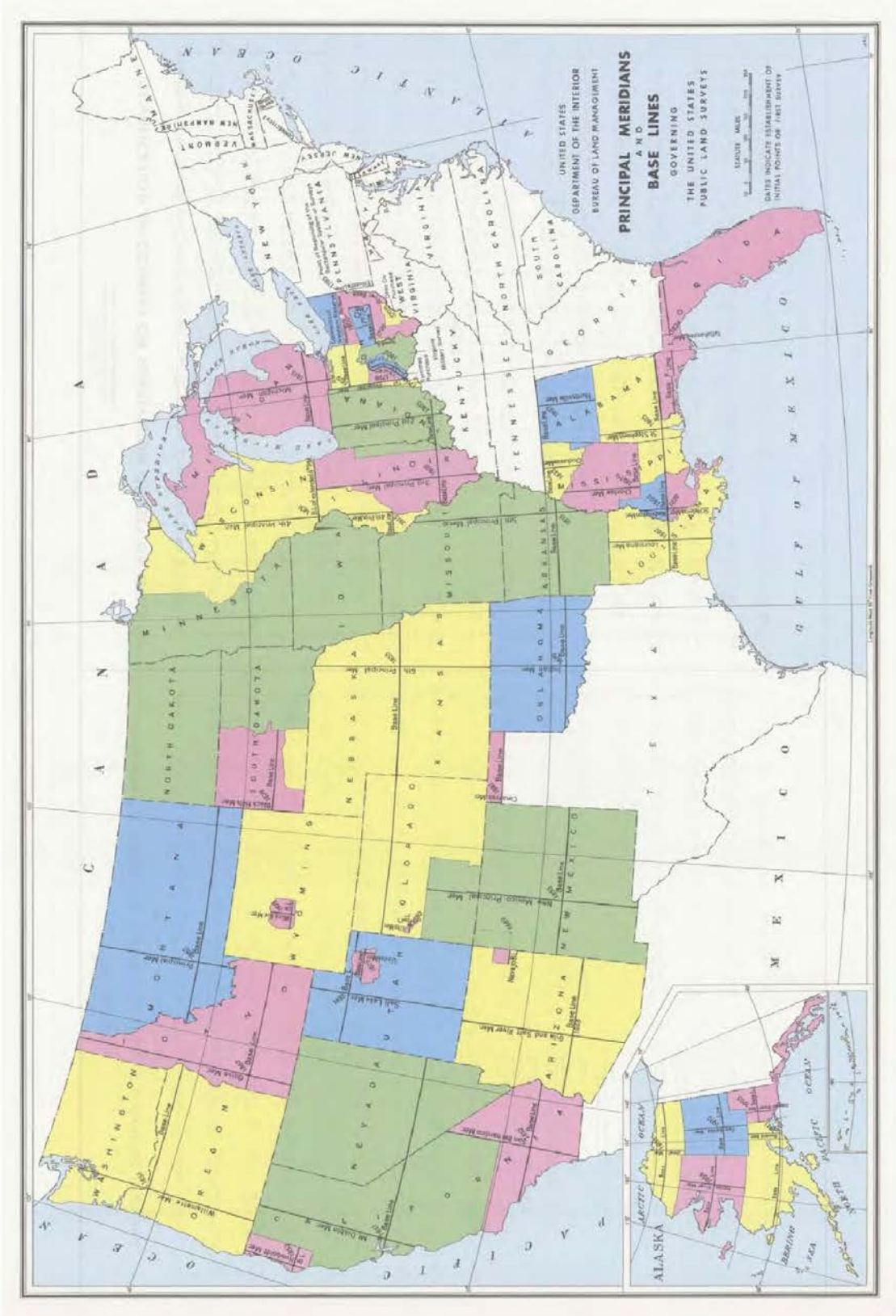


Figure 2.3 United States Initial Corner Locations

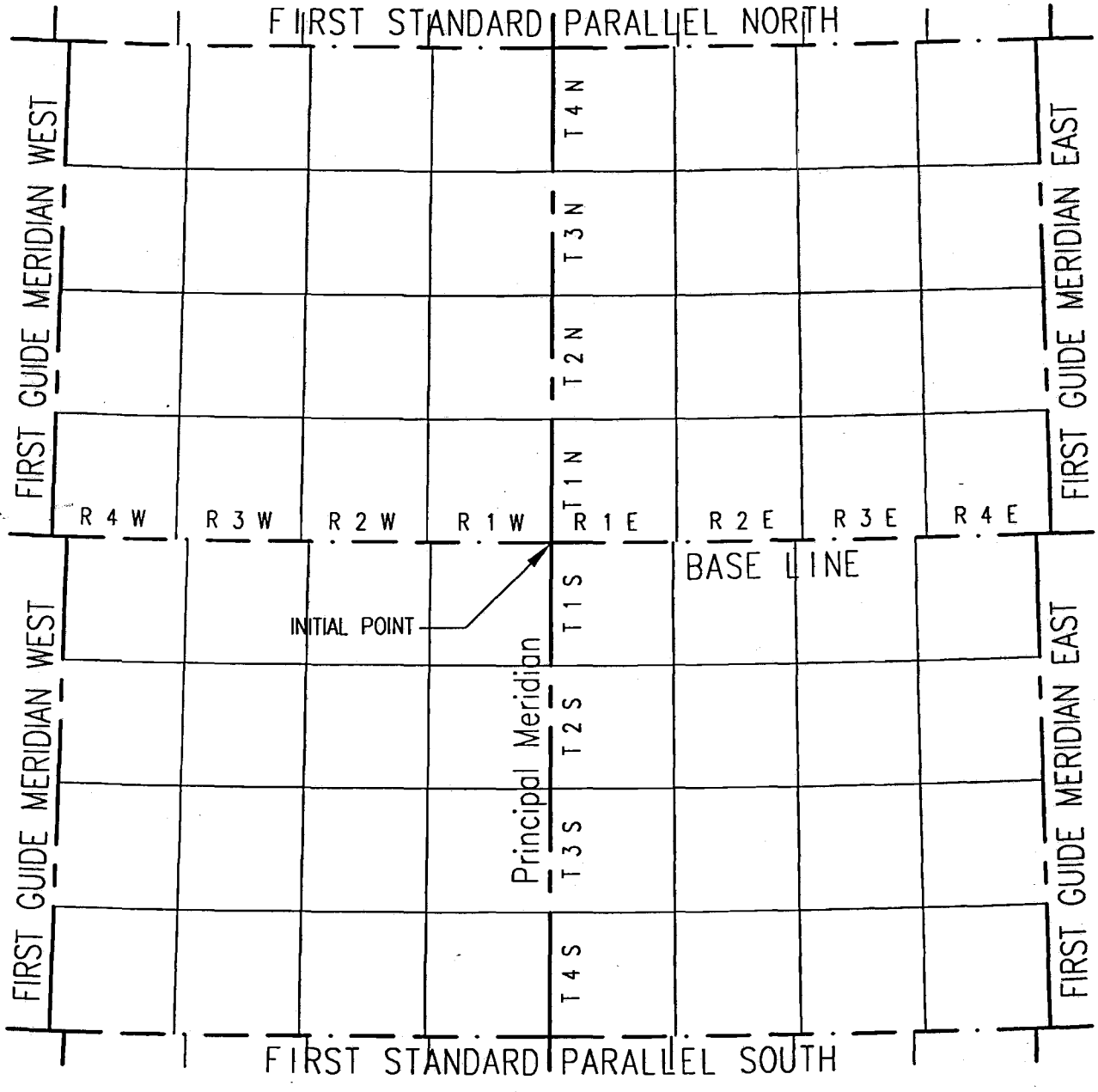


Figure 2.4 Converging Meridians and Townships

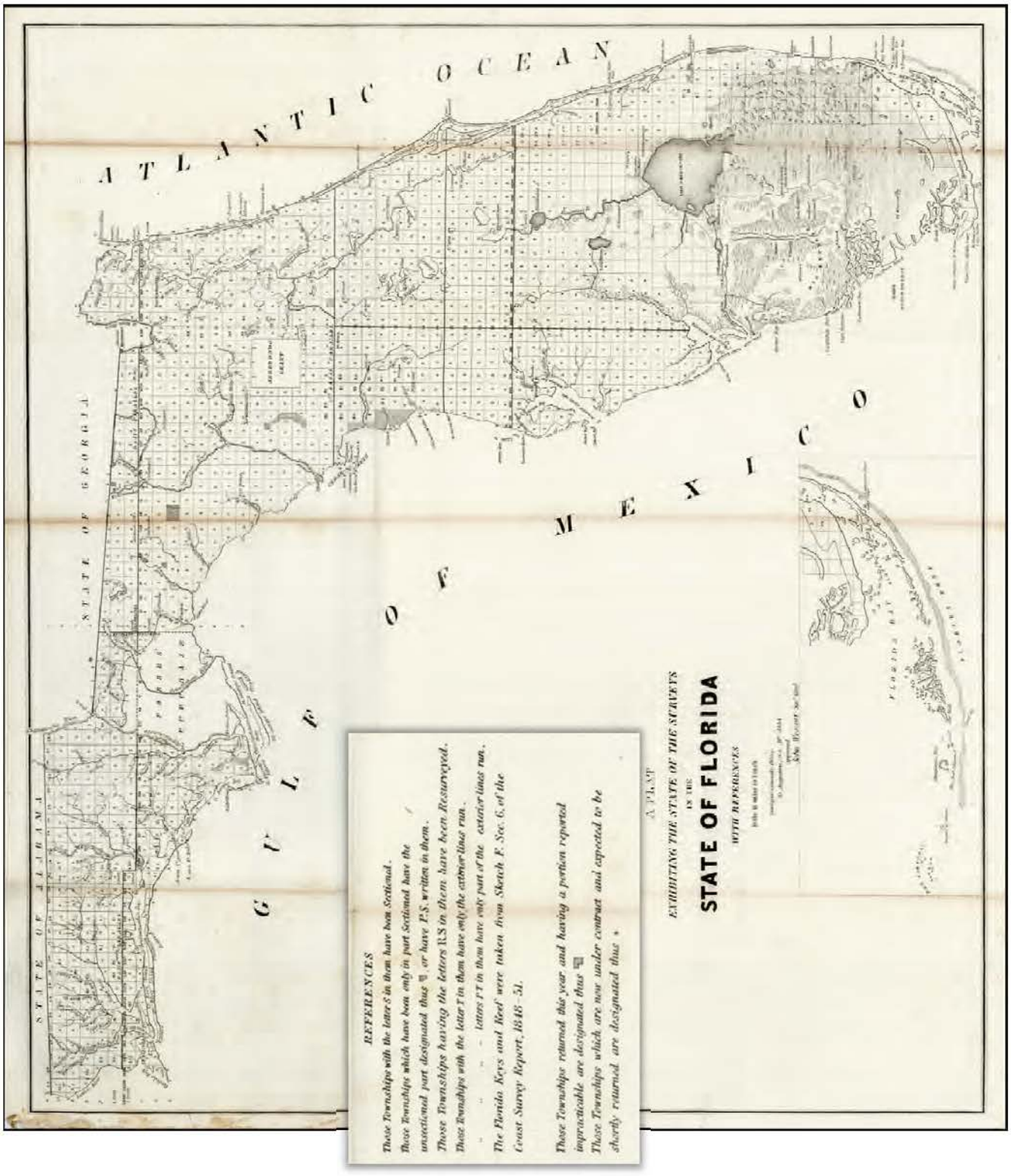


Figure 2.5 Township Status Map

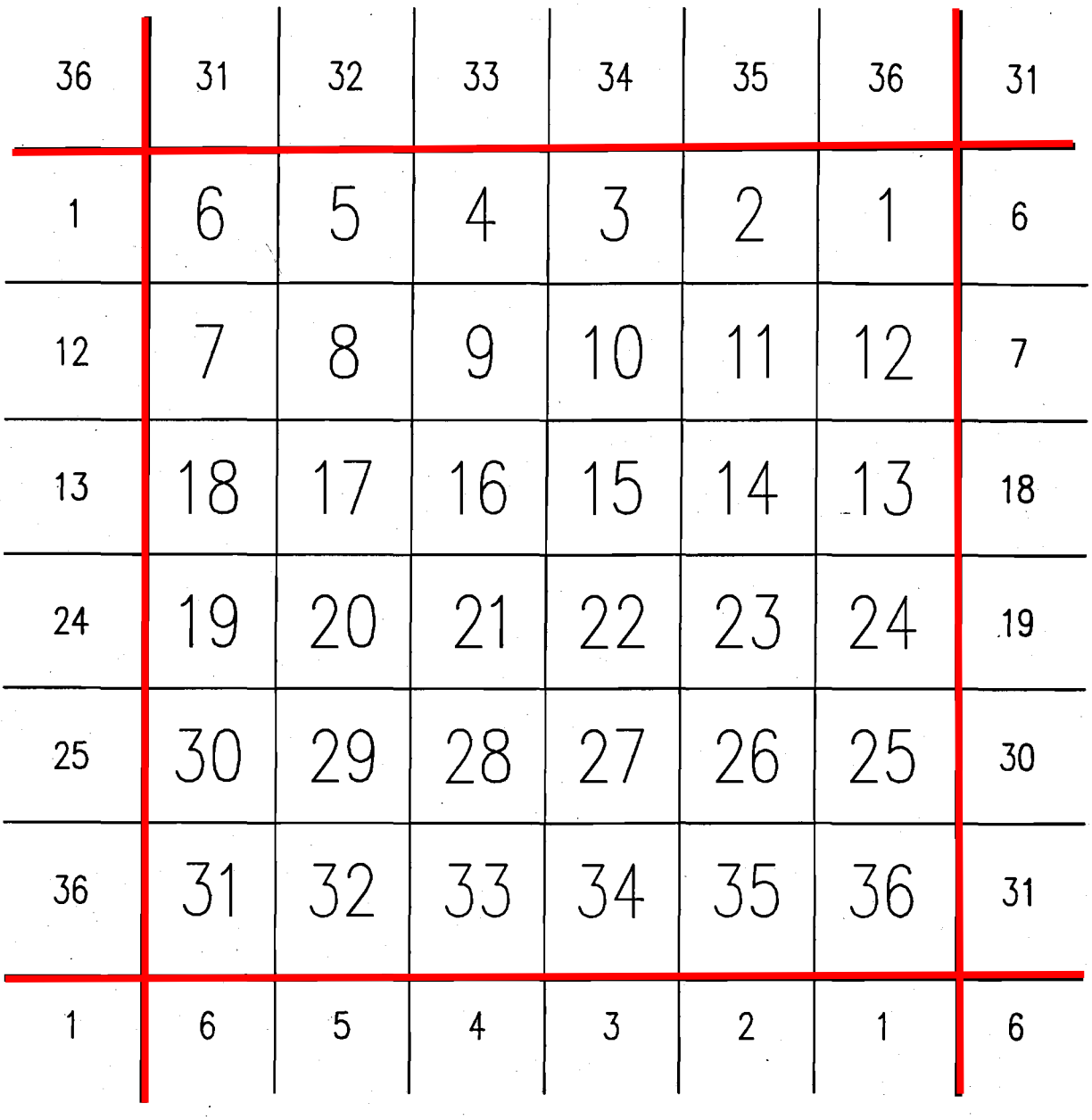


Figure 2.6 Typical Township Configuration

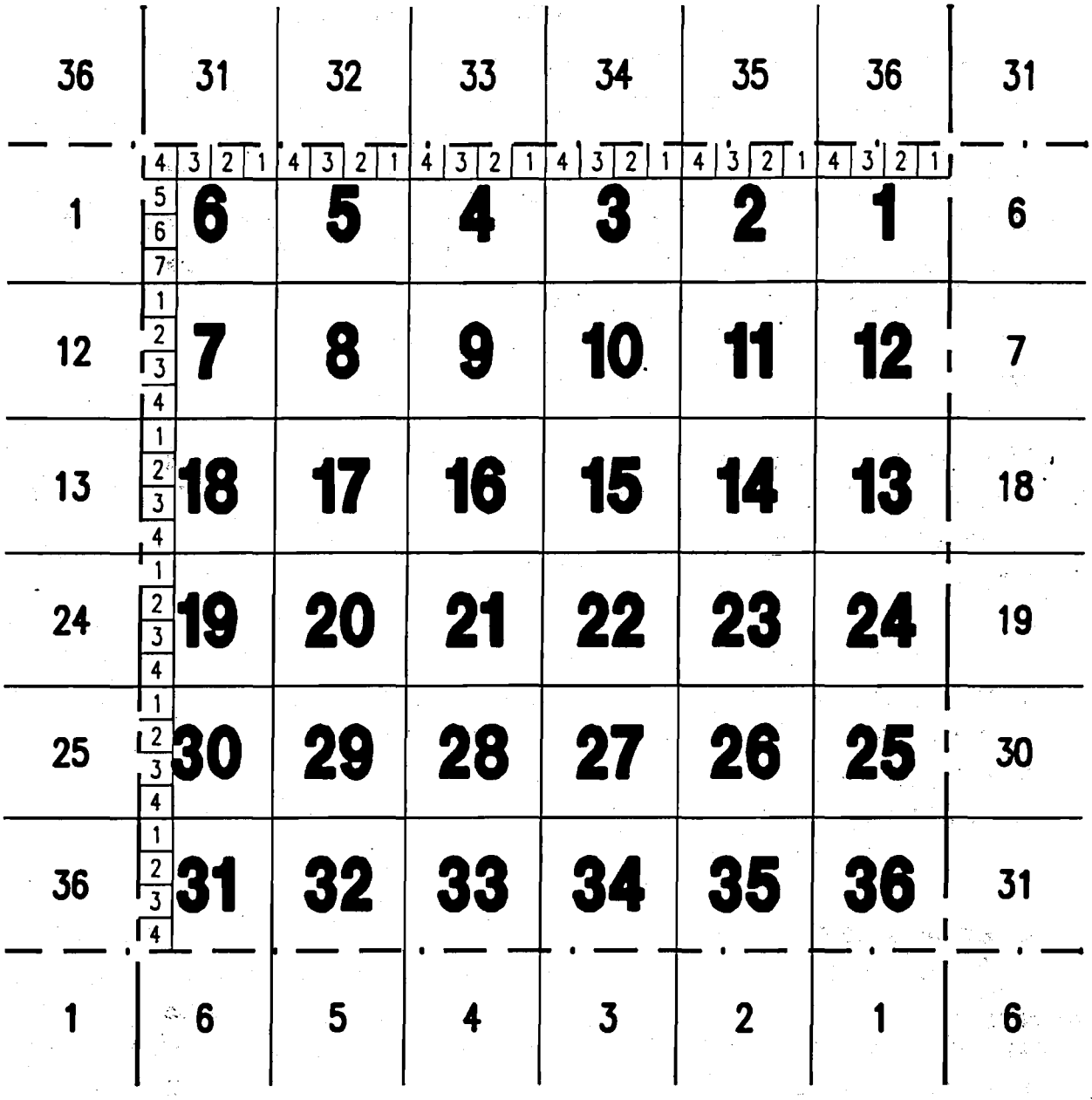


Figure 2.7 Closing Section Govt Lot Configuration

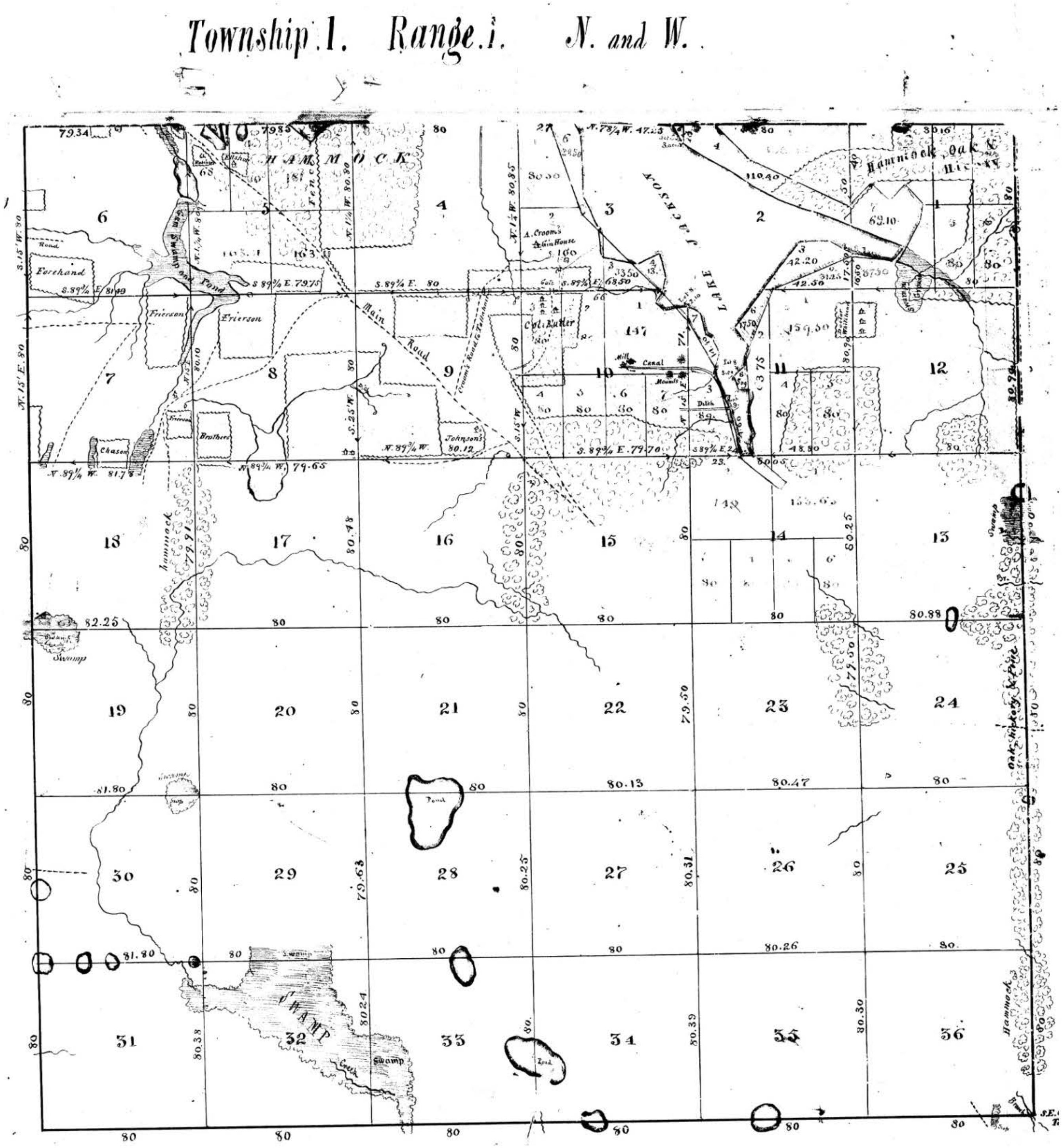


Figure 2.8 Meander Caused Gov't Lot Creation

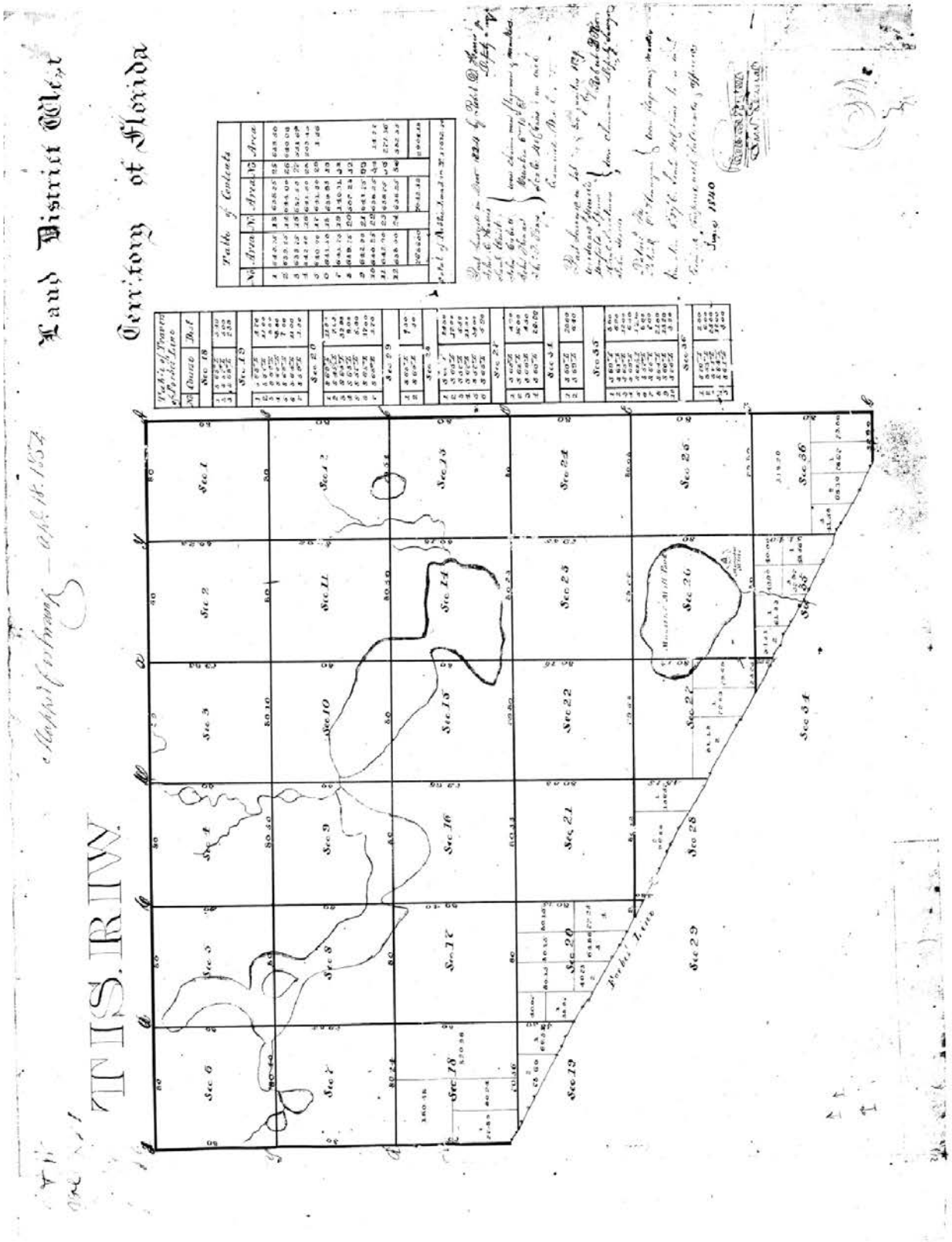


Figure 2.9 Grant Caused Gov't Lot Creation

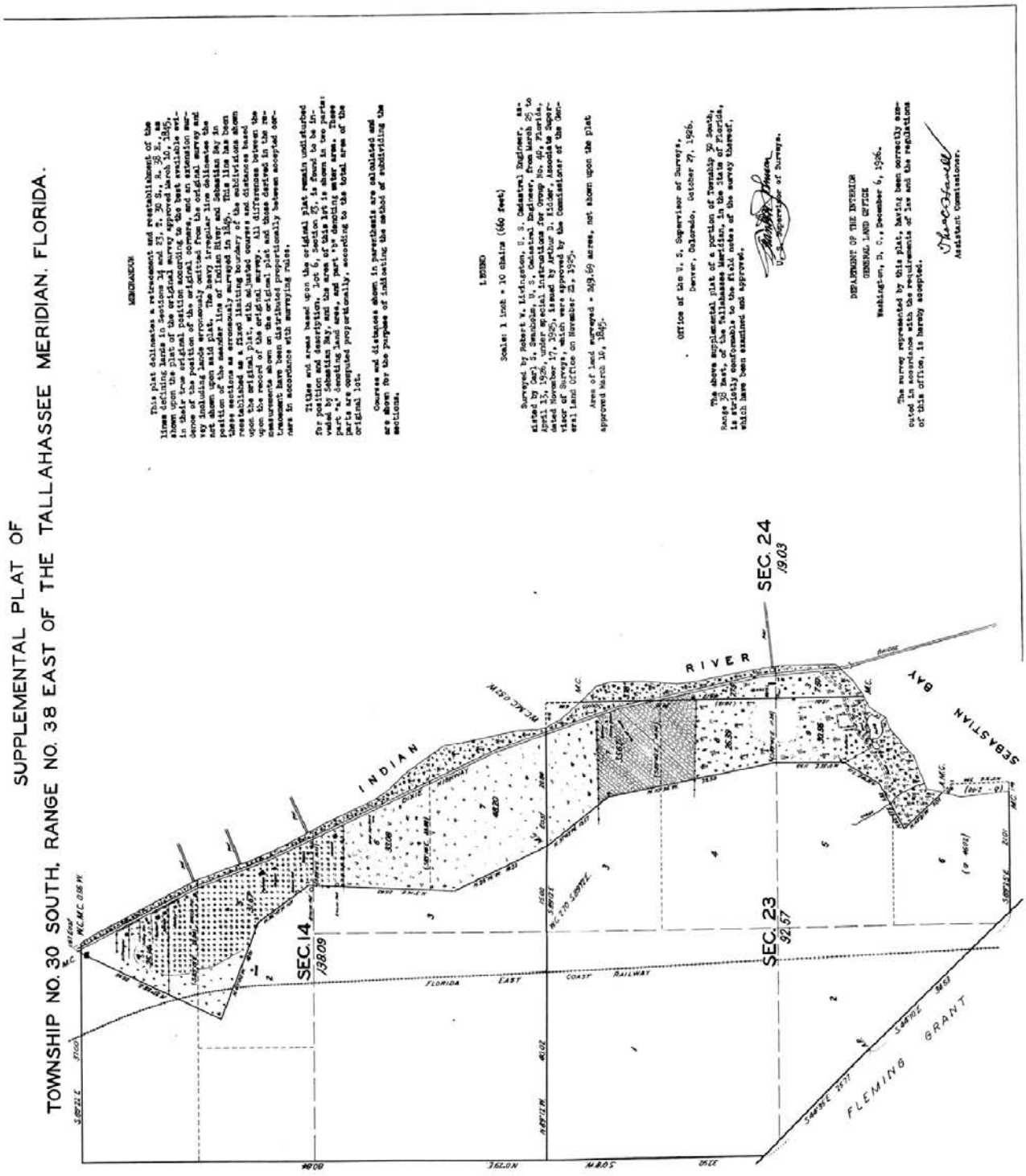


Figure 2.10 Omitted Lands Caused Gov't Lot Creation

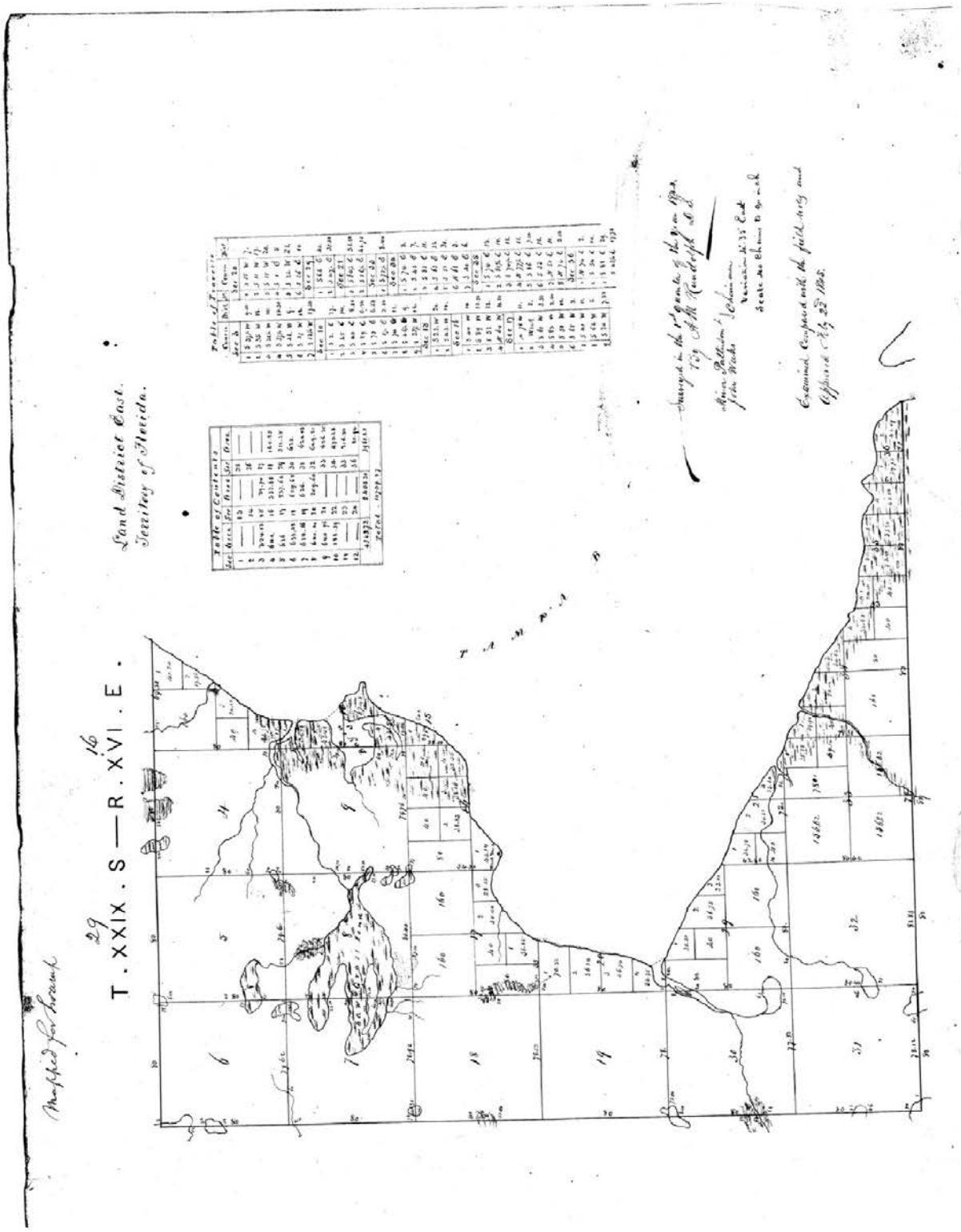


Figure 2.11 Original Government Survey Map

THE PUBLIC LAND SURVEY SYSTEM IN FLORIDA:

Florida's official system of describing land is the rectangular survey system (PLSS). With the appointment of Colonel Robert A. Butler as Surveyor of the Public Lands of Florida (Surveyor General of Florida) on July 9, 1824, the actual work of surveying the state by the PLSS was begun. One of his first orders of business was the selection of the initial point. The site of the territorial capital had previously been selected "halfway" between the two major towns of St. Augustine and Pensacola. Colonel Butler was asked to select the initial point so that the capital building would be approximately in the center of the first quarter section to the northwest. The initial point, one-quarter mile south and one-quarter mile east of the capital site, fell in a low area near the junction of two meandering streams and was referenced to four nearby trees. There is now a small park at the site with a concrete marker signifying that point.

From this initial point, the Principle Meridian was surveyed north and south and a Base Line was run east and west. The field work on the rectangular survey system in Florida was begun by the Deputy Surveyor, Benjamin Clements, sometime in November, 1824. The work on the PLSS was to proceed with all due speed as the new territorial government needed the cash, but prior surveys of private claims or grants impeded the task. In some instances, land grants held under private ownership had been subdivided by private survey into areas simulating government sections, but were not controlled by the rules for sectional land.

Working along the principal meridian and base line, the township corners were set at six mile intervals, and then the townships were marked off into a grid. Any specific township can then be located according to its relationship to the Tallahassee Meridian and the Base Line. (Refer to Figure 2.5 - Page 8)

Because of the shape of the earth, principal meridians come closer together as they extend toward the north pole. To adjust for this, correction lines were to be run every twenty-four miles. However, in Florida, due to the need for

rapid completion of the surveys, this was stretched somewhat to every 30 or 36 miles and in some cases even more. Much more than the original designers of the PLSS had intended. Due to this extension of the correction lines, some of the townships have major convergences and differences in distances from normal.

In most cases, townships were further divided into sections of one mile "squares" containing 640 acres each. Individual sections are identified by a numbering system that starts with Section 1 in the northeast corner of the township and ends with Section 36 in the southeast corner. (Refer to Figure 2.6 - Page 9) The meanders were run and the land classified for value purposes and then placed on the block for sale. In some southern counties, under state issued instructions, the center of the Section was also set. Highly unusual.

When a state's public land survey was completed, the records were turned over for safe keeping and the state was described as "closed". In the federal government's "rush" to declare Florida closed, large parcels were not yet surveyed and were left for the state to survey under her own instructions. Florida was only issued one set of General Instructions to Deputy Surveyors and that was in 1842.

In 1946, the responsibility for the surveying of public lands was turned over to the Department of the Interior, Bureau of Land Management (BLM) Cadastral Survey Department. They continue to have that responsibility to this day.

The survey records for the state are maintained by the Department of Environmental Protection, Division of State Lands. The federal government still has copies of almost every field book and map. An index to the actual patents to individuals is available on CD-ROM. Copies of most of the patents are also available from the BLM, but one must pay a research and copying fee for same.

Methods of Reading Sectional Descriptions:

Most government surveys show quarter sections and sections that measure exactly 2640 feet and 5280 feet on a side with interior angles of 90 degrees. Unfortunately, most sections vary greatly from these values and this causes many artificial overlaps and gaps to exist.

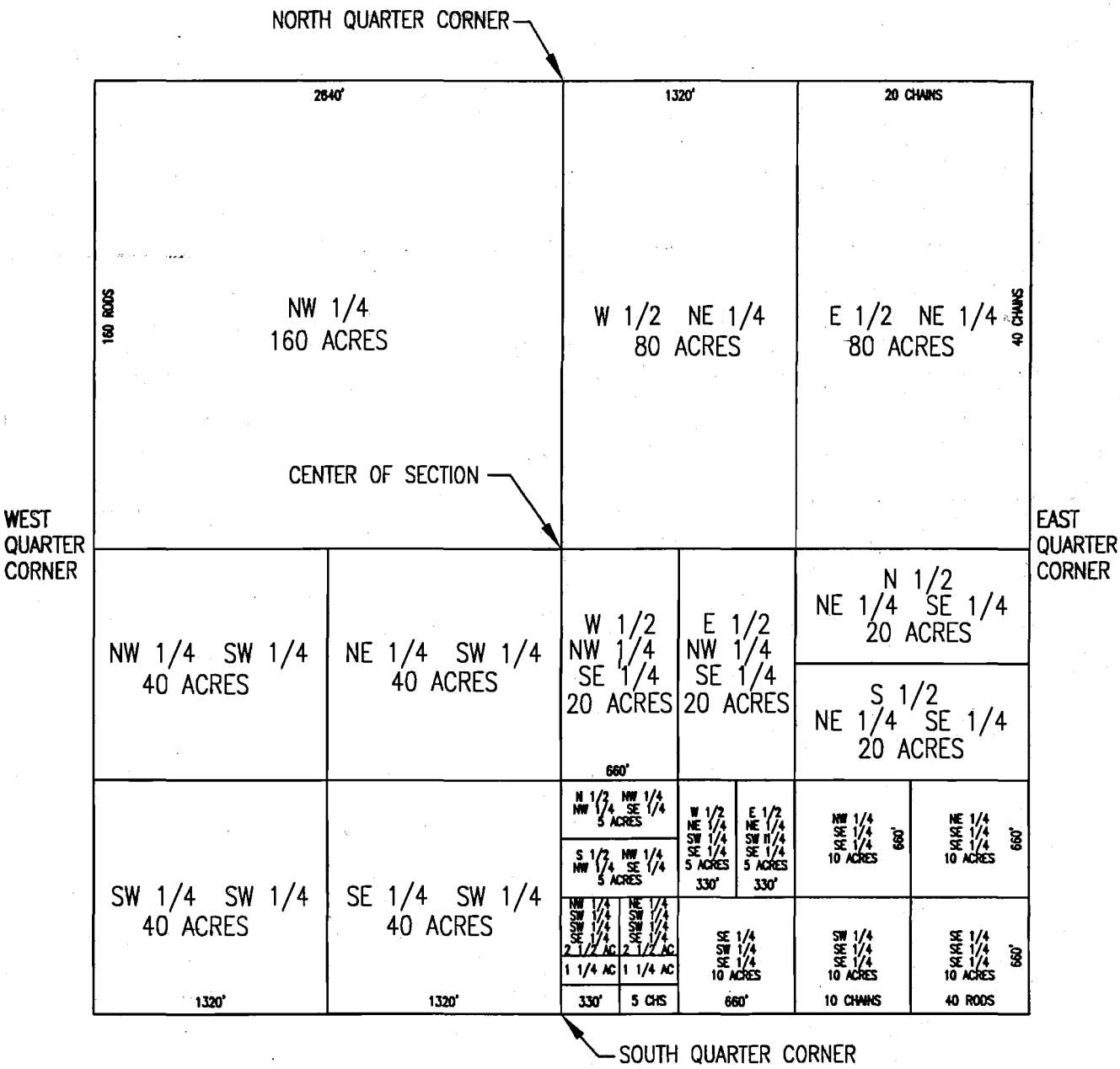
Each section consists of regular subdivisions (aliquot parts): the quarter section (NE 1/4- ½ mile square - 160 acres), and the quarter-quarter section (NE 1/4 of NE 1/4 - 1/4 mile square - 40 acres). The quarter-quarter section is the minimum legal subdivision under the general land laws, but is often further divided for descriptive purposes. (See Figure 2.12 - Page 18)

The first thing to remember in reading sectional type land descriptions is that the entire section must be considered first. As you begin reading each description, you will go from the large general area of one section (one square mile) to the specific description of one subject parcel.

One of the keys to understanding descriptions is to learn how to separate the various parts of multiple parcel descriptions. Read through the description first and look for terminology that may indicate more than one parcel. This could be a word "and" or a symbol " ;" (semicolon). Circle these separators, so that as you read each description this information then stands out.

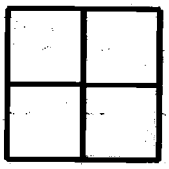
Some land descriptions depict a large parcel and then eliminate any part not transferred by the instrument. This is done by the phrase "less" or "less and except". As you are reading, underline that term so that it will also be obvious. Now let's take a look at finding the subject parcel.

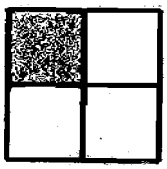
When writing an address you list the house number, then the street, then the city and state with zip code, and finally the country. But to find the recipient, you travel to the country, then go to the state, then find the city, and then the street and finally you look for the house number.

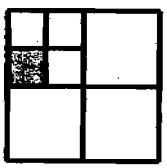


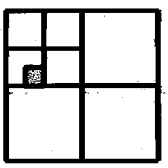
Standard Section

Figure 2.12 Section Aliquot Parts

1  **The Section**

2  **NW 1/4 of the Section**

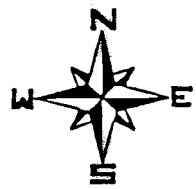
3  **SW 1/4 of NW 1/4 of the Section**

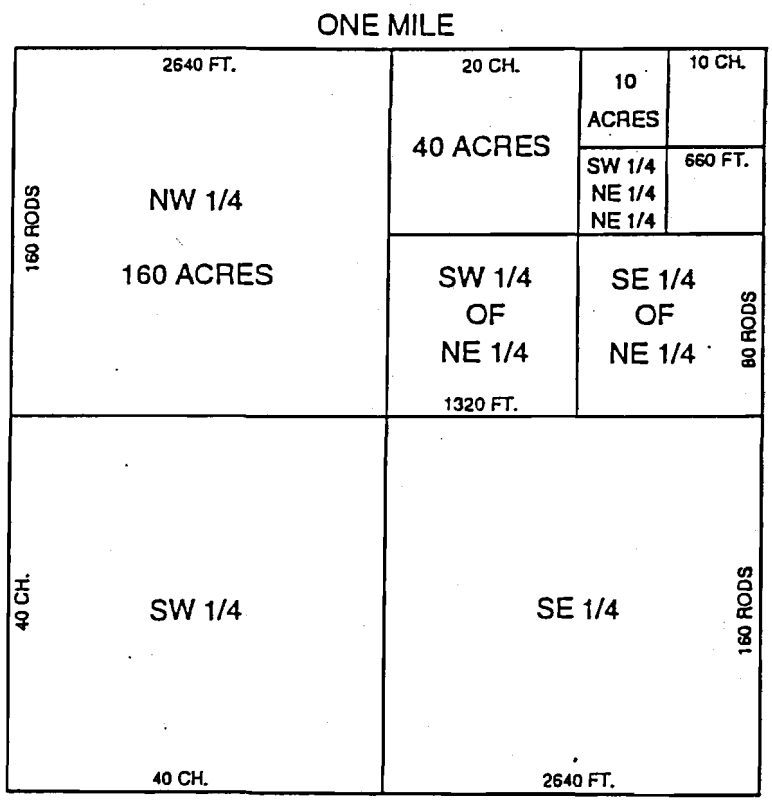
4  **SE 1/4 of SW 1/4 of NW 1/4 of the Section**

4 3 2 1

Notice how final Description starts with smallest parcel and ends with the largest; but to find it one must start with the largest part and work backwards to the smallest.

Figure 2.13 Sectional Breakdown Methods





A Section of Land is One Square Mile and Contains 640 Acres
A 1/4 Section Contains 160 Acres
A Township Area is 36 Square Miles and Contains 23,040 Acres

All Measurements in Government Surveys are indicated by links and chains.

One link = 7.92 inches — One chain = 66 feet or 4 rods or 100 links
One rod = 16 ½ feet or 25 links — One mile = 5280 feet or 320 rods or 80 chains
One acre = 43,560 square feet or 160 square rods or 10 square chains

Figure 2. 14 Thorough Sectional Breakdown Sheet

Writing a land description is much like that. Read the following: SE 1/4 of the SW1/4 of the NW1/4 of Section 9-29-16. To find the subject parcel one must travel to Section 9 (640Ac). Then go to the NW1/4 of the section (160 Ac); then inside that part find the SW1/4 (40Ac); then inside that part find the SE1/4 (10Ac). The subject parcel being that final SE1/4. Always remember that you are going from the large to the small. (See Figure 2.13 - Page 19)

If the above description had been written with a less out, it would have been taken from or removed from the final described portion (SE1/4 - 10Ac).

Something else to keep in mind - the letters before each 1/4 denotes not only location, but shape as well. The general rule of thumb is that two letters designates a square parcel (NW 1/4 or SE 1/4) and one letter designates a rectangle or strip of land (S1/4 or W1/2). Remember that the word "quarter" can denote a square or rectangle shaped parcel depending on the letters preceding it. The fully plotted description will be composed of one or more of these areas and when completed have a shape all its own.

More Definitions:

There are some more definitions which are used quite regularly in descriptions. These terms or phrases are used to define various specific points within a section. One of the more common is "quarter corner". Generally, this is where the original federal government surveyor set the wooden post when the section lines were run. While it may not be the half way point along the section line, it normally is fairly close. There are four per section named in reference to the compass and usually abbreviated: W1/4 corner, N1/4 corner, E1/4 corner, S1/4 corner. (Refer to Figure 2.12 - Page 18)

Another phrase used regularly is "center of section". While not always so, the general use of the phrase normally means the intersection point where a line drawn from the N1/4 corner to the S1/4 corner intersects a line drawn from the E1/4 corner to the W1/4 corner. It should be noted here that the

point derived from this intersection is not an equal division of either line. Those dividing lines are commonly known as the “north-south center line” and “east-west center line”. When any quarter of the section (160 Ac) derived from this division is equally partitioned into four parts, the lines are referred to as “forty acre lines” because theoretically it would divide that quarter into four- forty acre tracts. But this division of the quarter all depends on the original size of the section.

Calculating Acreage:

Describing a parcel by sectional breakdown allows for the quick calculation of acreage. This is based on a perfect section of one square mile. (Refer to Figure 2.14 - Page 20)

Divide -

Since each section contains 640 acres, then each Quarter (NE 1/4) contains 160 acres (640/4 = 160). When NE 1/4 is broken down into equal parts each quarter/quarter (SW 1/4 of NE 1/4) will contain 40 acres (160/4 = 40). The next division (NW 1/4 of SW 1/4 of NE 1/4) results in an acreage of 10 acres (40/4 = 10). The final breakdown (SE1/4 of NW 1/4 of SW 1/4 of NE 1/4) will result in an acreage of 2.5 acres (10/4 = 2.5).

Multiply and Divide -

The most common way to calculate acreage is to multiply the length times the width of the parcel and divide by 43560, which is the number of square feet in one acre. An entire section is 5280 ft. on all sides. The NE 1/4 is 2640ft. The SW 1/4 of NE 1/4 is 1320ft. The NW 1/4 of the SW 1/4 of the NE 1/4 is 660ft. So then the SE1/4 of NW 1/4 of SW 1/4 of NE 1/4 is 330ft.

Example: [(330 x 330)/ 43560 = 2.5 ac]

Plot the following Description and determine the Acreage:

The Northeast Quarter of the Northeast Quarter

ACREAGE:_____

Exercise 2.1

Plot the following Description and determine the Acreage:

The East half of the East half of the Southwest Quarter of the Northwest Quarter.

ACREAGE:_____

Exercise 2.2

Plot the following Description and determine the Acreage:

The South Quarter of the Southeast Quarter.

ACREAGE:_____

Exercise 2.3

Plot the following Description and determine the Acreage:

The East 660 feet of the Northwest Quarter of the Southeast Quarter.

ACREAGE:_____

Exercise 2.4

Plot the following Description. Count the number of separate Parcels and Determine the total Acreage.

The Southeast Quarter of the Southeast Quarter of Section 17 and the Northwest Quarter of the Northwest Quarter of Section 21.

NUMBER OF PARCELS_____ TOTAL ACREAGE_____

Exercise 2.5

Plot the following Description - Count the parcels - Shade each one in - Determine the total Acreage.

The Southeast Quarter of the Southwest Quarter of the Section, less the North half of the South half.

NUMBER OF PARCELS_____TOTAL ACREAGE_____

Exercise 2.6

Plot the following Description - Count the number of Parcels - Shade the parcels in and Determine the total Acreage.

The Northwest Quarter less the Southwest Quarter of the Southeast Quarter, also less and except the North Quarter of the Southeast Quarter.

Number of Parcels_____ Total Acreage_____

Exercise 2.7

Plot the following Description - Count the number of Parcels - Shade them in and Determine the total Acreage.

The South Quarter of the Northwest Quarter less the West half and the North half of the Southwest Quarter less the West Quarter.

Number of Parcels_____ Total Acreage_____

Exercise 2.8

Plot the following Description - Count the number of Parcels - Shade them in - Determine the total Acreage.

The Southeast Quarter of the Southeast Quarter of the Northwest Quarter and the West half of the Southwest Quarter of the Northeast Quarter and the East half of the Northeast Quarter of the Southwest Quarter and the Southwest Quarter of the Northwest Quarter of the Southeast Quarter of Section.

Number of parcels_____Total Acreage_____

Exercise 2.9

Plot the Description - Count Parcels - Shade them in - Determine total Acreage - Identify Number of Sections involved in Description

The Northwest Quarter less the North 1/4; the West one-half of the Southwest Quarter, and the Northeast Quarter of the Southwest Quarter of Section 15; also the Northeast Quarter of the Southeast Quarter of Section 16; also a tract described as beginning at the Southwest corner of the Northeast Quarter of the Southeast Quarter of said Section 16, thence South 2640 feet, thence East 1320 feet, thence North 2640 feet, thence West 1320 feet to the Point of Beginning.

No. of Parcels_____ Total Acreage_____ No. of Sections_____

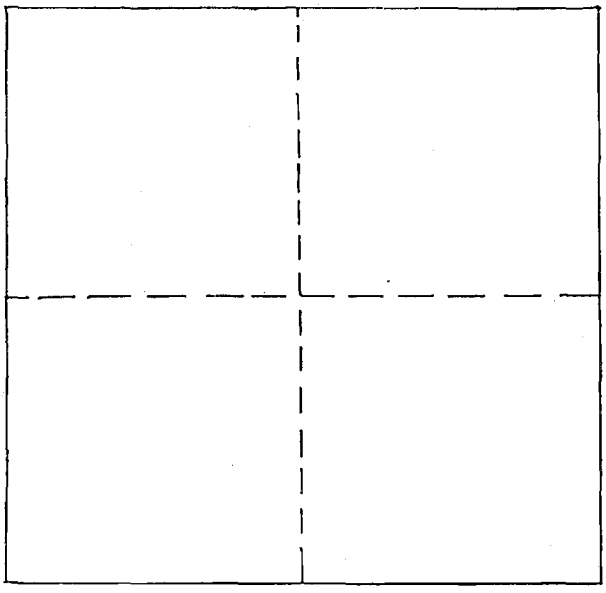
Exercise 2.10

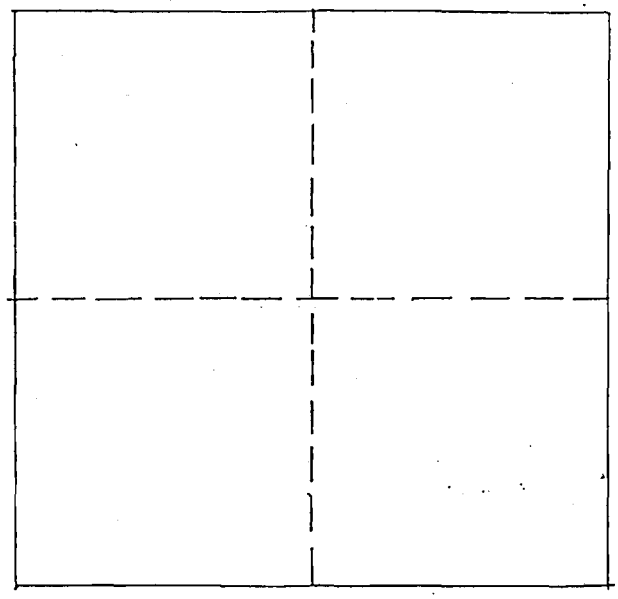
Plot the following Description - Count the Number of Parcels - Shade them in - Determine the total Acreage.

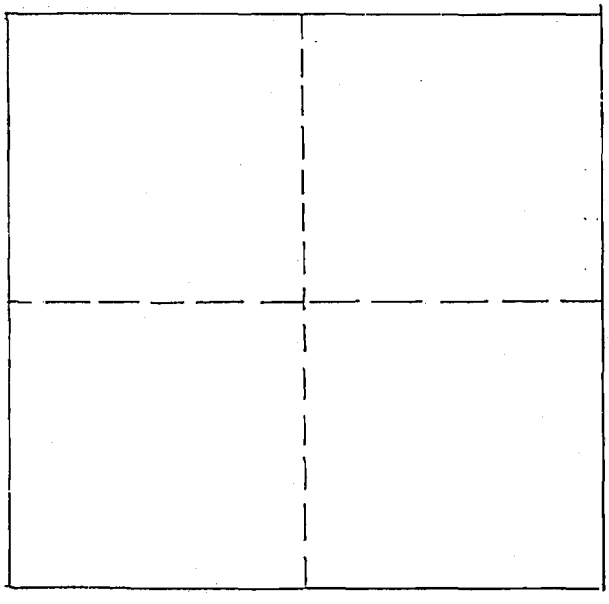
The Northeast Quarter of the Southwest Quarter of the Northeast Quarter, the Southeast Quarter of the Southwest Quarter of the Northeast Quarter, the Southwest Quarter of the Southeast Quarter of the Northeast Quarter, the Southwest Quarter of the Northwest Quarter of the Southeast Quarter of the Northeast Quarter, also a tract of land beginning at the Northeast Quarter of the Southeast Quarter of the Northeast Quarter, thence west 1320 feet, thence south 330 feet, thence east 330 feet, thence south 330 feet, thence east 660 feet, thence north 330 feet, thence east 330 feet, thence north 330 feet to the point of beginning; all being in Section 15.

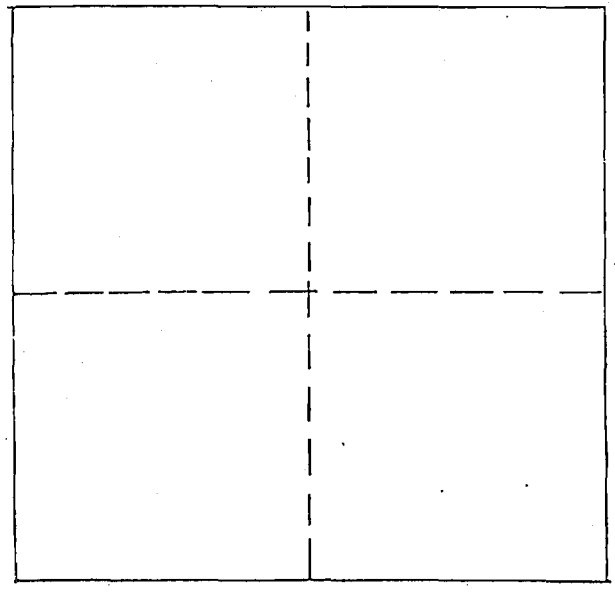
Number of Parcels _____ Total Acreage_____

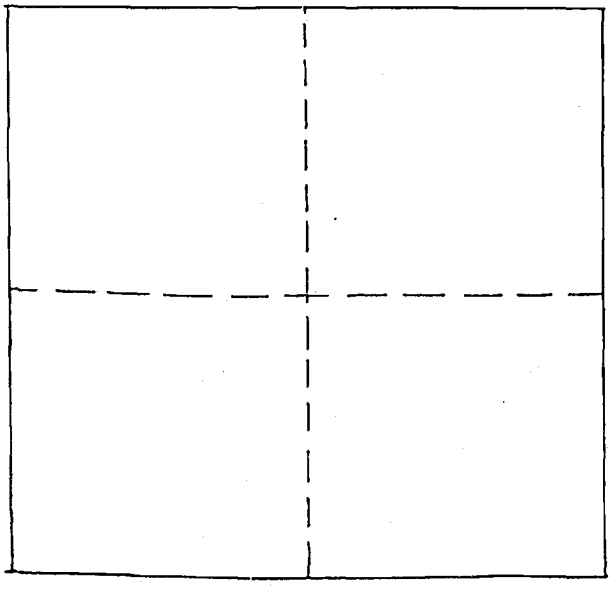
Exercise 2.11

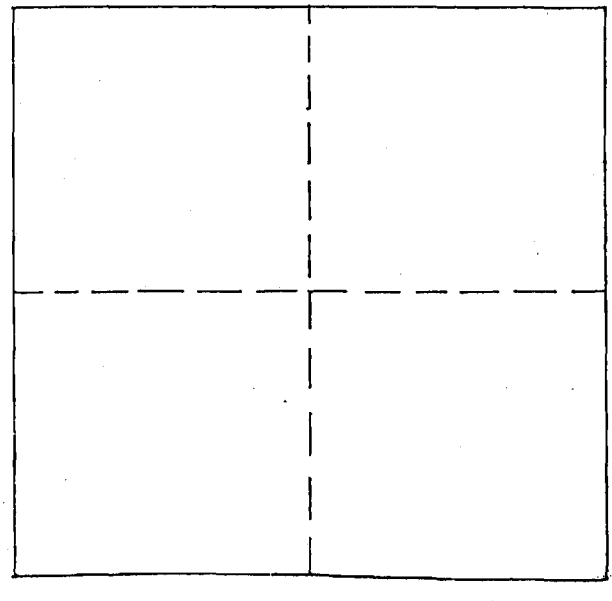


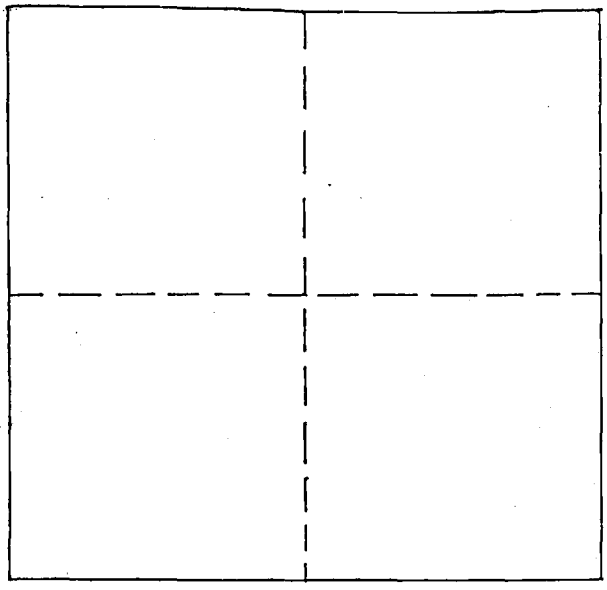
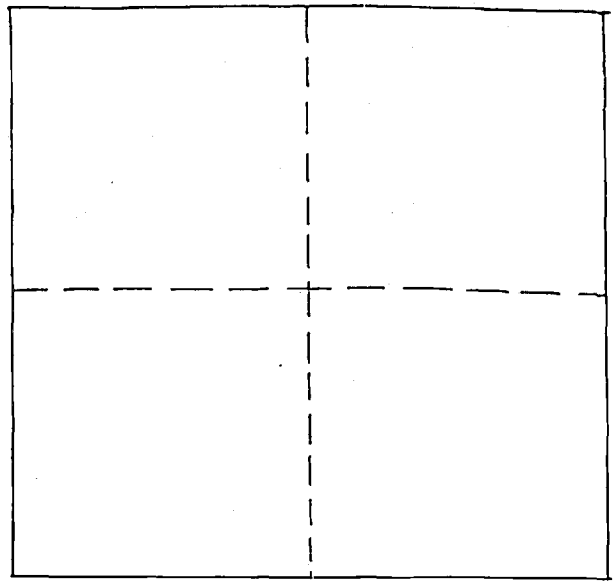
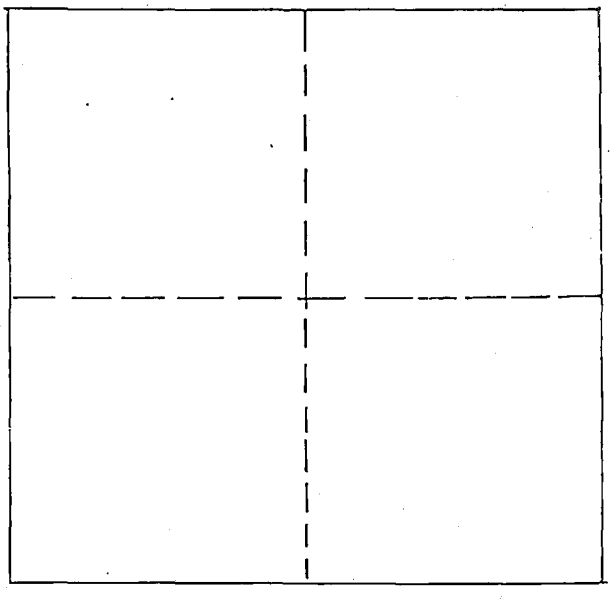
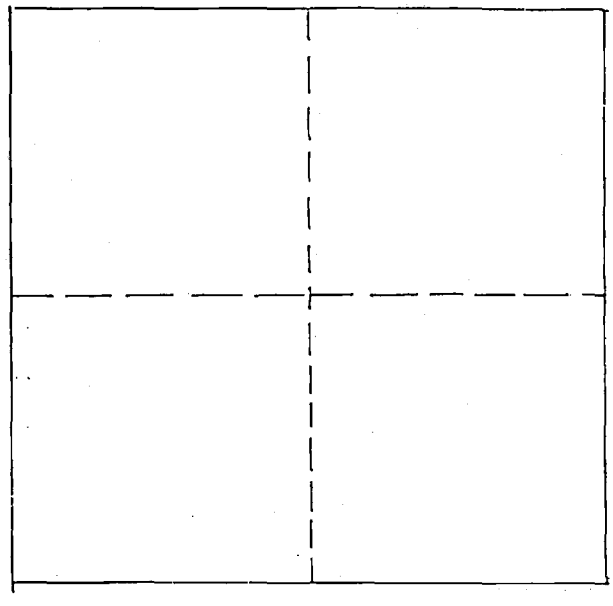
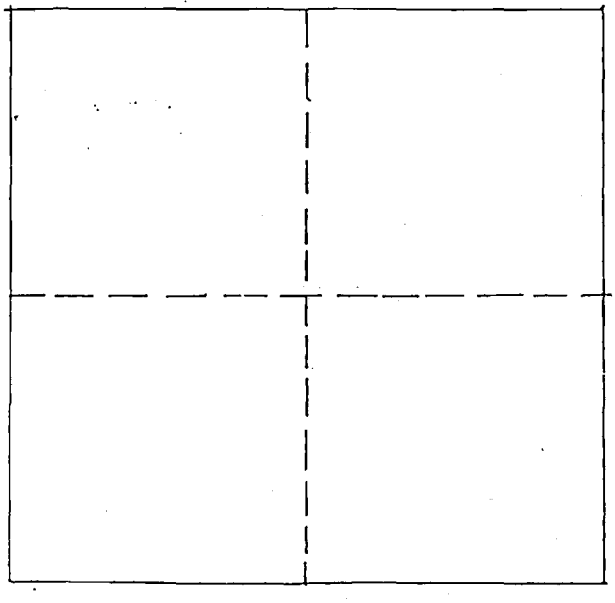
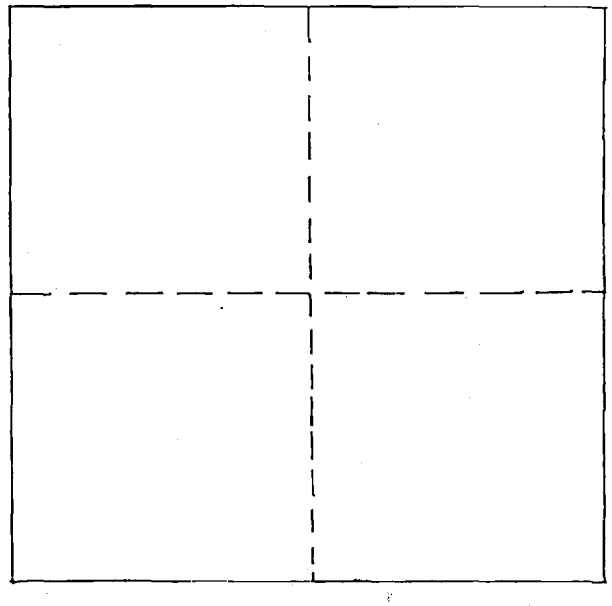










Interpretation of Real Property Descriptions

Chapter 3

Table of Contents:

Description Course Review

The Florida Association of Cadastral Mappers (FACM) offers the course "Interpretation of Real Property Descriptions" - Course III. This course provides the student with a working knowledge of the basic property descriptions used in appraisal mapping. While this will not be an in-depth review, we will touch on some of the information provided within that course, and will attempt to provide some guide lines which the student may use in resolving conflicts among the calls of a description or between two or more descriptions.

Descriptions:

A description is the written record of a physical area or boundary, for the purpose of perpetuating location and title. Descriptions for documentary and record purposes are invariably predicated on data derived from some previous survey or record. A description must be unique, applying to one and only one, parcel. Land descriptions may be either written or graphic. Depending on the method and parcel being described, written descriptions may be clear and concise or lengthy and complicated. It must always be possible to locate and map the parcel from its written description.

The three basic methods of describing land are **Government Survey (** description of parcel area and location by section, township, and range), **Metes and Bounds** (description of boundary lines by distance, direction, and land references), and **Plat Book and Page** (graphic maps or plats recorded and filed). Government survey and metes and bounds are the most commonly used methods and are also historical methods of land partitioning. Although very large tracts of land (grants) were for surveying purposes only, not land partitioning. Metes and bounds descriptions are a road map describing the outside boundaries of a parcel of land. It has a reference point tied to an original section corner, then directs one to the point of beginning on the parcel, then in courses and distances and sometimes

monuments, directs one around the perimeter of the parcel and back to the point of beginning. Graphic land descriptions are based on the recording and filing of maps or plats prepared from one of the survey methods. They identify parcels by reference to lot and block numbers (or letters) and name or numerical designations given to the recorded filed maps. These references to graphic descriptions can be used in deeds as a brief, complete, and accurate substitute for written descriptions.

It must be remembered that valid boundary descriptions may utilize combinations of fractional section, metes and bounds, and plat book and page descriptions. Of course, the tedious but necessary task of carefully proofreading descriptions must be approached with the utmost precision and care, since even a slight change in punctuation can alter the meaning of an entire boundary description.

Relationship Between Descriptions and Surveys:

A large portion of the law concerning what to hold, what to reduce in importance and what are the meanings of the words used in descriptions, comes from the presumption by the courts that the description was prepared from an original survey made on the ground prior to the deed being prepared and the object is to follow in that surveyor's footsteps even if the intent of the seller was a different parcel. The courts will tolerate erroneous deeds as long as the description serves to identify the boundaries. They rely heavily on the intent of the deed as well as the surveys**.** Any part of this can be overcome by better evidence.

All measurements have some error:.

Understanding how surveyors work, the conditions encountered in the field, and the limits of the accuracy of the equipment will allow the layperson to better understand and interpret descriptions. *No measurement is exact or the "true measurement", either in distance or angle.* They are simply estimations of the true measurement.

To help you understand, remember the installation of the final piece of the Gateway Arch in St. Louis? The surveyors waited until the sun's rays had sufficiently heated the metal of the existing arch so that the final piece would fit into place without a problem. Ever see the cuts that are made in concrete to take care of the expansion and contraction of the concrete? Well, the same thing happens to measurements. The metal chain or tape used by the surveyor is longer in summer than they are in winter because metal expands with increasing temperatures. In Florida, the temperature of a tape lying on an asphalt roadway can be over 140 degrees (F). This causes the tape to expand by about 0.04 hundreds, thus making the measurements longer than what they actually are.

When looking through the telescope of the angular measurement instrument at an object on the surface, the object begins to "jump around". Your eyes begin to jump around as they attempt to follow the object sighted through the lens. All that jumping around affects the accuracy of any measurement made through the air.

Surveyors came up with a rough means to estimate the validity of their measurements called " an error of closure". In basic terms, in a closed traverse (where a survey starts and ends at the same point), a mathematic ratio can be determined by using the distance and angle between the known starting point and the actual closing point.

Computations on some of the original surveys in Florida reflect that error closure ratios as low as 1:200 were accepted by the Surveyor General. Later that became 1:1000. Little changed until the 40's and 50's when the minimum acceptable ratio became 1:5000, a 1000% increase in accuracy or roughly ten percent per year.

The State of Florida has stated the following ratios based on the estimate of perceived land values:

Rural.....1 foot in 5,000 feet

Suburban.....1 foot in 7,500 feet
Urban.....1 foot in 10,000 feet

Accuracy of Measurement Equipment:

In the early 1800's, the distance measuring equipment was the most accurate. That is why the courts in this country and England have stated that the distance will hold over the angle. At the beginning of the 20th century, the angles actually got better than the chain with the introduction of the transit to everyday surveying. Shortly thereafter, the steel ribbon tape came into common use and the distance equipment seemed to equal angles. With the advent of electronic angle measuring equipment, most of the instrument's internal error producing problems were removed.

Legal jurisdiction:

If the land is still in federal ownership, rather than state or private, different controls may be applicable. But the federal government has little, if any, land still available for purchase in Florida. The state only has a concern in those areas of ownership where the state was the original surveyor.

Types of discrepancies:

The general guidelines for discrepancy resolution that will provide a suggested course of action are as follows:

1. Deed discrepancies

    a. ***Acreage*** discrepancies occur when the acreage specified in the legally recorded source document (deed or plat) does not approximately equal the acreage as calculated from the survey description or the cadastral map. Acreage discrepancies also occur on a regular basis in riparian parcels where one boundary of the property is a river, stream or ocean. Depending on whether the parcels were surveyed to the center line of the stream or

to the mean high water line, will have an obvious affect on the area calculation.

b. ***Dimension*** discrepancies occur when the dimension scaled or calculated for a parcel boundary does not approximately equal the corresponding dimension stated in the deed description or indicated on the plat. These discrepancies may cause conflict with adjoining properties, particularly when neither the subject property nor the adjoining property is controlled by a survey. These conflicts usually result in overlaps or gaps in ownership.

c. ***Ownership*** discrepancies occur when it is unclear if the intent of the deed was to transfer all interest of the grantor or only partial interest. The grantor may be deceased or missing, or have no fee simple interest in the property which he is conveying. These are only a few of the many problems most jurisdictions encounter.

2. Plat discrepancies

a.Discrepancies between plats or surveys are not as common in jurisdictions where the PLSS exists, but they can be found in any jurisdiction. In areas not covered by the PLSS, surveyors may have had a difficult time finding good monuments with which to tie their surveys or plats.

b. For the most part, plat discrepancies that are identified will not exceed the dimension or acreage tolerances. By adjusting the measurement of each lot in equal amounts, with no adjustment exceeding the tolerance, the cumulative measurement may be brought within tolerance.

c. Sometimes a surveyor may have difficulty determining the proper basis of bearing for a survey or plat. If the surveyor cannot determine true north, he must rely on the previously surveyed bearings of another survey. The older it is, the less likely the new survey's basis of bearing will be correct.

The resolution of discrepancies between the legal cadastre and the assessment cadastre for taxing purposes is no small feat. While there is precedent for making almost any resolution one might consider, the resolutions must be accomplished in a consistent manner which treats all property owners and all parcels equally.

Uncertainties in a Deed:

Patent Ambiguity - An uncertainty which is evident from the words in a description itself. For example, a detailed metes and bounds description that will not mathematically close or the name of the county is wrong, or the section, township or range is incorrect for the location of the parcel.

Latent Ambiguity - an uncertainty which does not appear within the description itself , but arises from evidence outside of the words in the deed. What happens if a call in the description states "... thence 1320 feet to the forty acre line and when it is plotted the distance is found to be 1332 feet? What lands are involved?

Precedence of Calls:

The term "**monument**" refers to a natural or artificial object on the ground which helps to establish location of the boundary lines. A "**course**" is the direction of a line run with a compass or transit, with references to a meridian. A "**call**" is a reference in a description of real property in a course, distance, marker, monument, or a natural object by which a boundary is defined. The following precedence of calls applies when construing deed descriptions:

Natural Monuments - refer to features of terrain such as trees, or the shore line of a lake, river, stream, or ocean. These should control over most any other call in a description. A description which states "...thence 1000 feet to the Gulf of Mexico" leaves no doubt as to where it goes, but what happens when the distance after plotting turns out to be 1500 feet? It doesn't matter. The line should go to the Gulf of Mexico and the distance given ignored, because a call for a natural monument takes precedence over a call for distance.

Record Monuments - are those objects that are publicly recorded. A call in a description to the right of way of a road or a subdivision lot corner is a call to a record monument.

Artificial Monuments - usually refers to points established by a surveyor marked with objects such as a concrete post, iron pin, or wooden stake. Calls to an artificial object such as a 4" x 4" concrete marker will control next. This is under the theory that the reader was told in the description, what was set or found during the survey. Quite often, the original corner monument placed by the original government surveyor may have been lost, or the surveyors disagree where the original corner monument was located.

Artificial Monuments - *not called for in the description* - If no object was called for in the description, but a review of the survey drawing reflects manmade artificial monuments, that must have existed at the time of survey as disclosed byreference to maps or other documents of record, will control at this point.

Adjoining Owners - this form of description eliminates almost entirely the need of dimensions, defining an area perfect in its relations with the adjoining lands, without conflict, and dependent wholly upon the accuracy and the ability to locate the boundaries of such adjoiners. It is very suitable for areas not covered by survey. It is limited in its scope by the research necessary to find the adjoining owners in the records.

Bearings, Distances and Area - have the least precedence in the hierarchy of importance. These also have been addressed in other sections.

The law has established a specific order of priority in locating a boundary line: natural monuments prevail over courses and distances, and distances prevail over quantity.

Intent:

Intent is a term used to describe the probable intentions of the grantor and grantee as determined from the document itself. In writing descriptions, a single

error such as an improper numerical value, or a misplaced word or punctuation mark may result in litigation. This could throw the land titles and perimeters of an entire neighborhood into question, and cause great harm for several years if the intentions of the grantor and grantee are not fulfilled. Every attempt should be made to interpret what was the actual intent.

Senior Rights:

One of the most important logical means to determine what lands belong to a deed is senior rights. While they can be overcome, it takes a lot of additional evidence to do so. Simply put, senior rights are nothing more than - one can't sell something twice. Once sold, the original owner no longer has control of the land. When the next recorded document includes something that was already sold by the same seller, you will know what to do...bring the problem to either your supervisor or the person who prepared the document.

Miscellaneous Phrases:

Parts of a Parcel - using "___ly" along with a compass direction and footage in a description (... Southerly 50 feet of lot 20)**.** In the absence of evidence to the contrary, the distance (50 ft) is to be measured at right angles to the described line (Lot 20).

Line segments vs. Whole lines - when a call in a description makes reference to a direction and distance ("...thence north 500 feet along the subdivision boundary...") but the overall line is actually many different segments, how do you measure the parcel? The courts have generally held that a group of consecutive lines, even though they may have different directions, some of which may be in a different direction from the majority, can still be considered along a general direction.

Each and Either - in strip descriptions (roads, easements, etc) ***each*** denotes the strip to lie on both sides of the line at all points**;** ***either*** implies that the strip may be on one side or the other. It is correct to say "a strip of land 50 ft wide lying

25 ft on each side of the following described line..." but it is incorrect to say "a strip of land 50 ft wide lying 25 ft on either side of the following described line..."

Public Relations:

One of the most important aspects of discrepancy resolution is public relations. Most property owners do not fully understand the function of the assessment official. The discrepancy issue is simply too complicated for many property owners because they do not have the background knowledge upon which to base an understanding. In case of a question or conflict, call the person that Florida law requires to be on the document - the person who prepared it. Attorneys, title companies, surveyors are all willing to assist.

As a matter of fact, the rules as passed by the Florida Board of Professional Surveyors and Mappers require a surveyor and mapper to prepare a map explaining any metes and bounds description that they have prepared since 1981. Ask for a copy of it. Get whatever you need to assist you with the descriptions that give you trouble.

"5J-17.052 Minimum Technical Standards: Specific Survey, Map, and Report Requirements."

(5) Descriptions/Sketch to Accompany Description:

(a) Descriptions written by a surveyor and mapper to describe land boundaries by metes and bound shall provide definitive identification of boundary lines.

(b) When a sketch accompanies the property description, it shall show all information referenced in the description and shall state that such sketch is not a survey. The initial point in the description shall be tied to either a government corner, a recorded corner, or some other well-established survey point.

Basic Map Compilation

Additional Information

Chapter 4

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Additional Information

Chapter 4

State Plane Coordinates:

In the Florida Statutes, Chapter 177 titled "Land Boundaries" Part 1 is about Platting and Section 177.151 concerns State Plane Coordinates.

"**177.151 State Plane Coordinates -**
(1) Coordinates may be used to define or designate the position of points on the surface of the earth within the state for land descriptions and subdivision purposes, provided the initial point in the description shall be tied to the nearest government corner or other recorded and well established corner."

A description of land based on geographic coordinates eliminates many disadvantages found in both the metes and bounds and the rectangular survey system.

Most surveys of small areas are based on the assumption that the earth's surface is a plane, even though the true relationships of points to each other can only be accurately expressed in terms of spherical coordinates (latitude and longitude). To compute areas, distances, and positions using spherical mathematics is difficult and complicated. Because many surveyors were unable to use this method of referencing points, a system of listing geodetic stations, using plane rectangular coordinates in feet and decimals, was needed. The United States Coast and Geodetic Survey fulfilled this need by developing a **state plane coordinate system** for each state.

Such a system provides a common datum for referencing the horizontal control of all surveys in a large area. It eliminates individual surveys based on assumed coordinates that are not related to those used in other work.

Projections:

For states which are predominately *long in the east-west direction*, the *Lambert Conformal Conic* projection is used. For a predominately *north-south shaped state, the Transverse Mercator* projection is used. Florida requires two Transverse Mercator projections for the peninsular which are known as the East and West Zones and one Lambert projection zone for the North.

The North zone - This projection extends from the Perdido River eastward to the Baker-Duval county line, and from the north Florida state line to the Gulf of Mexico and the south Alachua county line.

The East and West zones - these two Zones covering the peninsular are approximately 150 miles wide. The projection touches the earth's surface for both zones at a distance of approximately 42.9 miles both east and west of the central meridian. The lines dividing the zones are always county lines.

The **Y (northing)** zero point for *all zones* is in the Dry Tortugas but *each zone* has a *different position* for the **X (easting)** zero point.

All state coordinate meridians (north-south lines) are parallel to each other. All bearings are based on a central astronomic meridian bearing of North.

As a person travels **north** within a **state coordinate zone**, his state coordinate increases. If the travel is **south**, the state coordinate decreases *within the zone*. As a person travels **east** within a **state coordinate zone**, his state coordinate increases. If the direction of travel is **west** *within the zone* the state coordinate decreases.

Descriptions of land boundaries, for location and record, may include recital of coordinate values for any and all angle points of boundary or tie as

supplemental. There are not many deeds which use the coordinates of a tract as its sole means to locate the lands to be included within the description. The courts have given coordinates even lower superiority ratings than acreage.

There are three coordinate systems in common use:

a. Geodetic coordinates (latitude and longitude)
b. State Plane coordinates
c. Local coordinates

The only difference between the last two are the method used to provide the numbers and the size of the numbers. The local systems normally will be just large enough to cover the parcel being described. Whatever coordinates are being used to compute a parcel should verified as to which value was placed first in order to correctly locate the points.

Until recently all state plane coordinate values were determined using the North American Datum, Adjustment of 1927. Nearly all the values have been re-computed on a new system called the North American Datum, 1988, Adjustment of 1990 and sufficient shifts in values occurred. If a state plane coordinate system is being used to describe land, the text should provide the name and adjustment period so multiple descriptions can be meshed together.

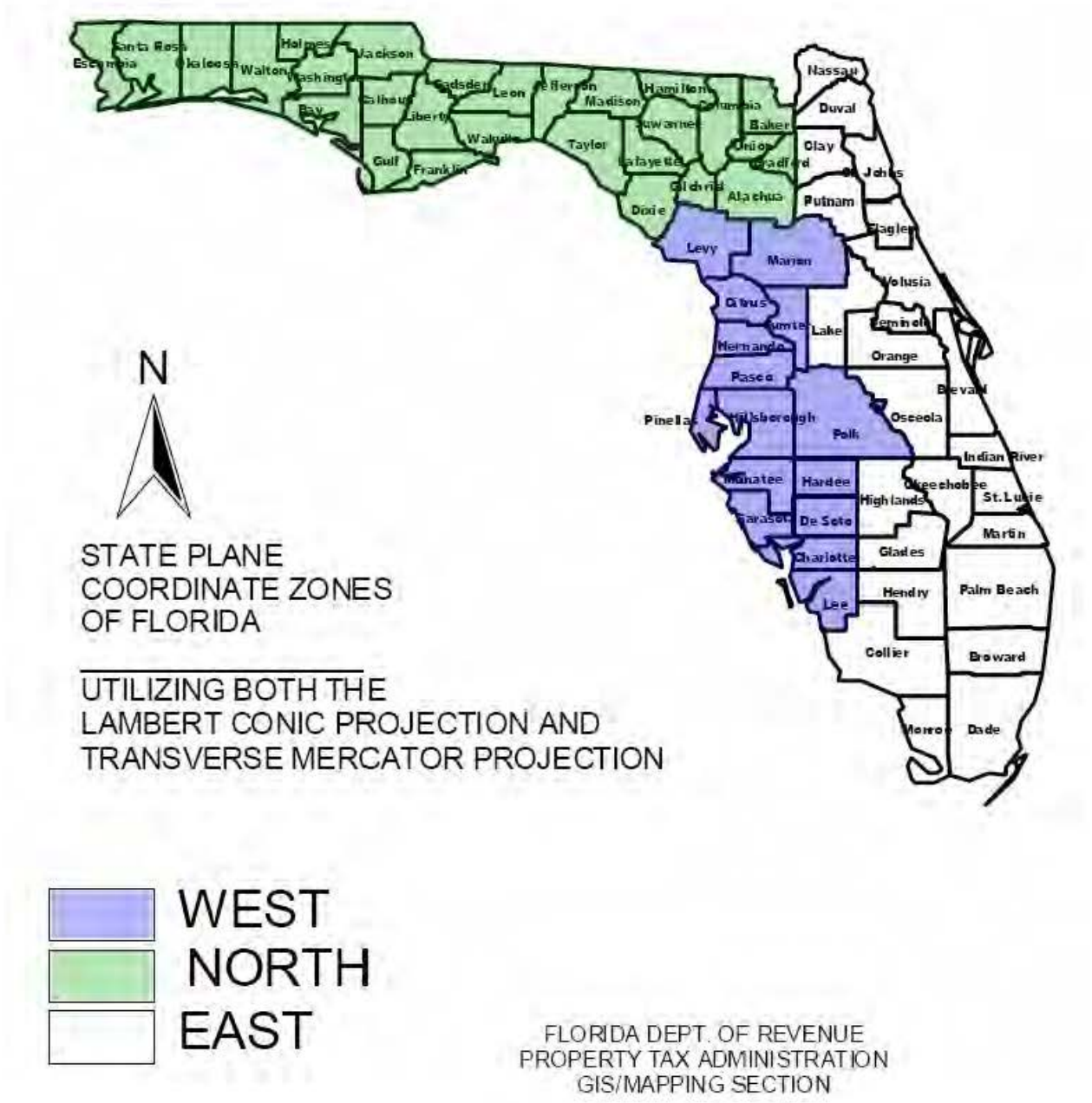


Figure 4.1 State Plane Coordinate Zone Map

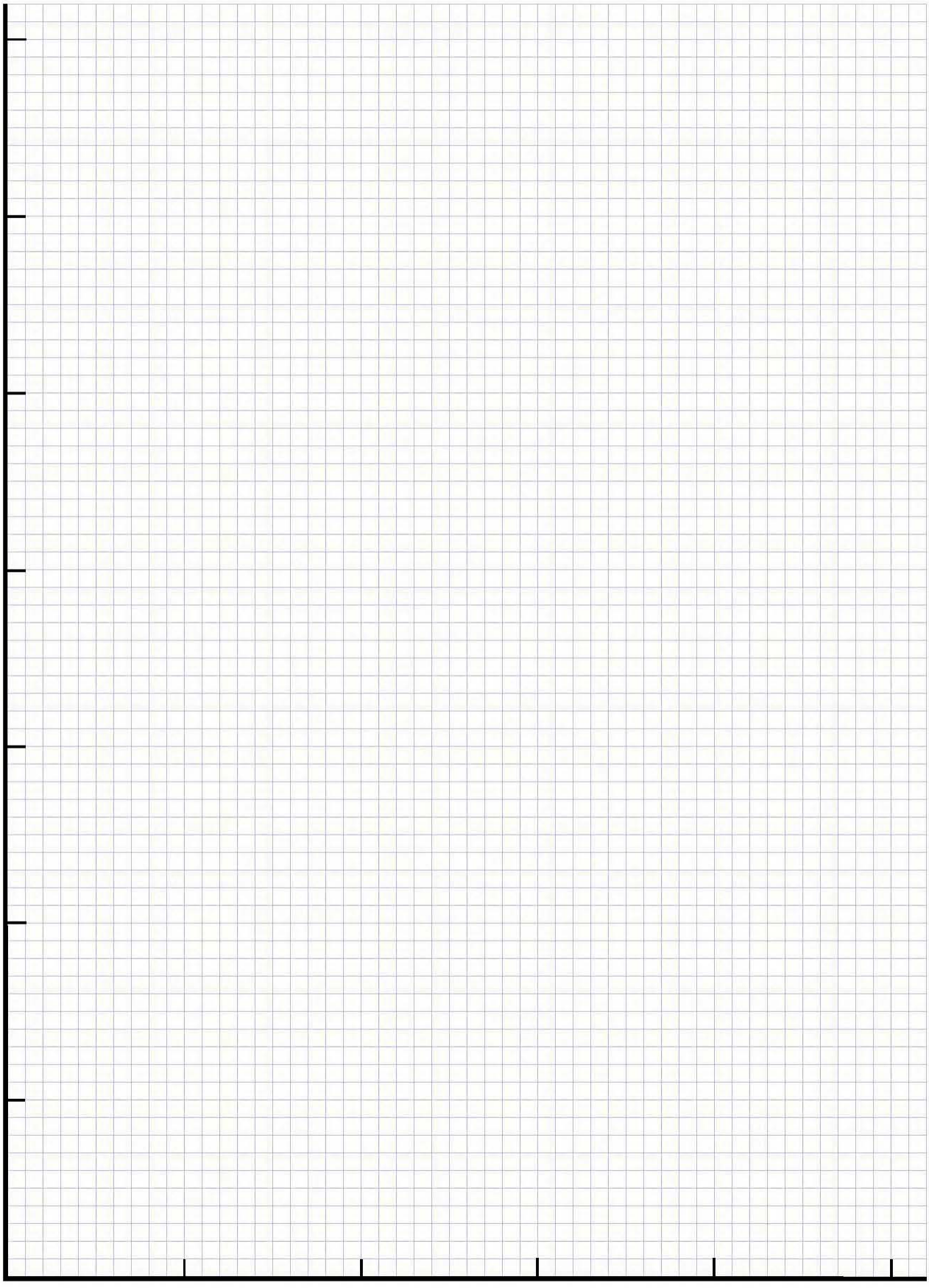
Plotting With Coordinates:

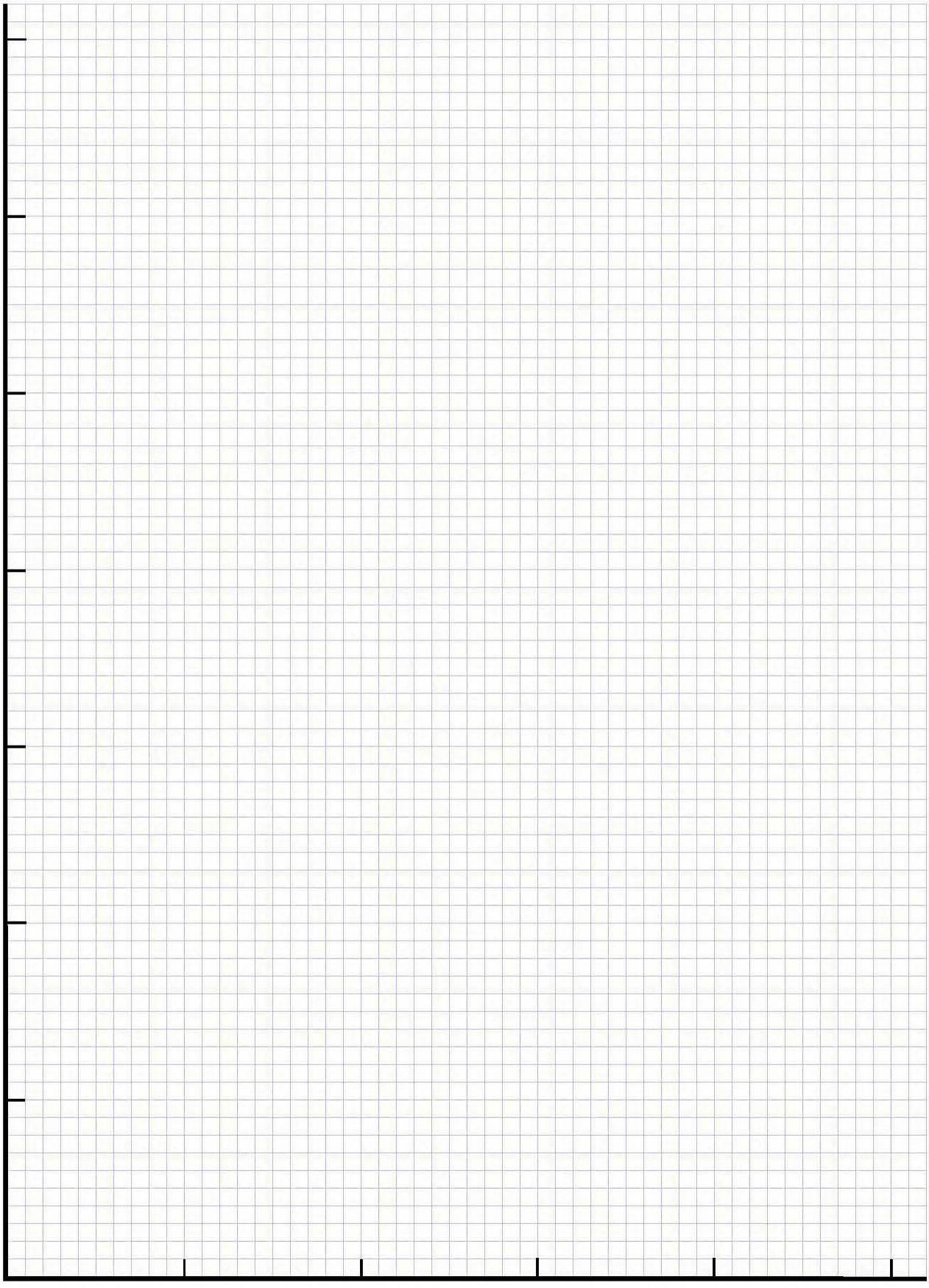
Plot the following three descriptions, from the coordinates listed, on the attached grid sheet. If you know how, also provide the distance along each line.

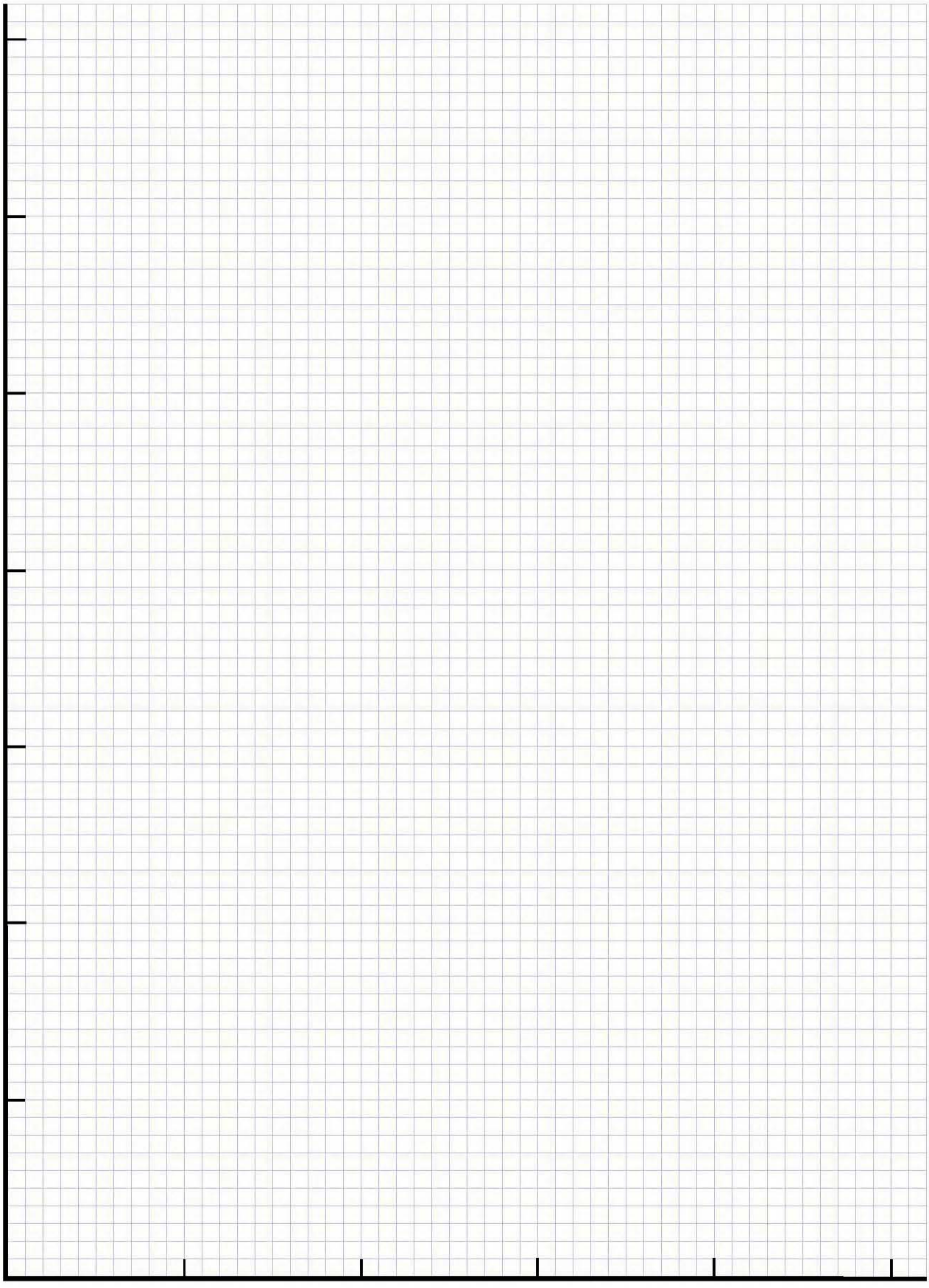
A.	B.	C.
N 200 E 080	N 440 E 380	N 030 E 240
N 480 E 220	N 520 E 440	N 130 E 300
N 440 E 320	N 200 E 500	N 200 E 480
N 280 E 360		N 150 E 490
N 220 E 240		

Plot the following Description:
John Smith to United States of America (Corps of Eng) July 10, 2088:
Begin at Northeast corner of Section 10, Township 29 North, Range19 West known as Station 1, X = 972720 and Y = 618115; thence south to Station 2, X = 972645 and Y = 617365; thence west to Station 3, X = 972030 and Y = 617405 to the east side of the road; thence Northwest along east side of road to Station 4, X = 971955 and Y =617505; thence east to Station 5, X = 972365 and Y = 617480; thence North to Station 6, X = 972410 and Y = 618135; thence return to point of beginning.

1.) Draw the perimeter on the 2nd sheet of grid paper at a reasonable scale.
2.)What is the accuracy of the coordinates provided in the last example?







Aerial Photographs:

Aerial photographs are taken with specially designed cameras, from airplanes or from ground stations. *There are two basic types of aerial photographs - rectified and non-rectified*. Rectified aerials are photogrammetrically adjusted utilizing the principles of perspective in the projection of the details from the photographs onto maps drawn to scale. Non-rectified aerial photographs are photographs with no adjustment for the tilt of the camera or the perspective of the camera lens.

Photo interpretation is the identification of the nature and significance of features and objects contained in photographic images. In assessment mapping, the major goal of photo interpretation is to determine where property lines should be placed, "occupation lines" - observable features on photographs that indicate potential ownership boundaries.

They are also used in the field when deed descriptions are incorrect or contradictory and other data are not adequate for location of property lines or identification of owners. The following characteristics of photographic images are helpful in the interpretation of aerial photographs:

Size:

Size is a function of the scale of the photograph. The area of an object increases or decreases according to the square of the same object's increase or decrease in length or width. For example: a building will appear twice as long on a 1"=100ft aerial than on a 1" = 200ft aerial, but the area of the building will appear to be four (4) times as large on the 1" = 100 ft aerial photo.

Shape:

The vertical view of an object can inform as to its structure, composition, and function.

Shadow:

Shadows are particularly useful in interpreting vertical aerial photos because they provide a side view of vertical features that could otherwise be seen only from the ground.

Tone:

Tone variations result because objects of different colors reflect light differently and thus register differently on a photograph. Tone also depends on the angle of the sun and the reflectivity of the surface. (For example: water will usually be lighter or darker that the surrounding land)

Texture:

Texture is the degree of coarseness or smoothness of the photographic image and is created by tone variations in groups of objects that are too small to be individually identified.

Pattern:

Pattern is the spatial arrangement of objects. Cultural features like orchard trees display regular, often recurring, patterns; natural features like forest trees are random patterns.

Plats:

Florida's plat law came into existence because in the early part of the great Florida land boom of the 1910's, the plats being taken to the court house for recording were so poor that people couldn't find their lot. A large number of the drawings were not being made by surveyors and the data on the drawings wouldn't "work". Legislators heard all the complaining and acted to create the first plat law. From that point on almost no one other than a surveyor filed a plat and the quality greatly improved. The plat law sets up certain minimum standards that every plat must meet. However, counties and cities can increase or add to those minimum plat requirements but can never reduce them.

Florida Statutes **Section 177** Part 1 is entitled **Platting**.

"Subsection 177.011 - Purposes and scope of Part 1: This part shall be deemed to establish consistent minimum requirements, and to create such additional powers in local governing bodies, as herein provided to regulate and control the platting of lands."

This section outlines the following requirements regarding plats:

177.021 Legal status of recorded plats. - "The recording of any plats made in compliance with the provisions of this chapter shall serve to establish the identity of all lands shown on and being a part of such plats, and lands may thenceforth be conveyed by reference to such plat."

177.031 Definitions - there are 20 definitions in this section.

(14) ***Plat*** means "a map or delineated representation of the subdivision of lands, being an exact representation of the subdivision and other information in compliance with the requirements of all applicable sections of this chapter and of any local ordinances..."

177.041 Title certification - "Every plat of a subdivision submitted to the approving agency....must be accompanied by a title opinion of an attorney...or a certification by an abstractor or title company showing that record title in the land...is held by the persons executing the dedication."

177.051 Name of Subdivision - "every subdivision shall be given a name by which it is legally known. Such name shall not be the same or in any way so similar to any name appearing on any recorded plat in the same county as to confuse the records or to mislead the public as to the identity of the subdivision..."

177.061 Qualifications of person making survey and plat certification - "Every subdivision ...shall be made under the responsible direction and supervision of a land surveyor who shall certify ...that the survey was made under his responsible direction and supervision and that the survey data complies with all of the requirements of this chapter."

177.071 Approval of plat by governing bodies - " Before a plat is offered for recording, it shall be approved by the appropriate governing body, and evidence of such approval shall be placed on such plat."

177.081 Dedication and approval - "Every plat of a subdivision filed for record must contain a dedication by the developer. When a tract or parcel of land has been subdivided and a plat thereof bearing the dedication...and approval secured and recorded in compliance with this chapter, all streets, alleys, easements, rights-of-way, and public areas shown on such plat, unless otherwise stated, *shall be deemed to have been dedicated to the public for the uses and purposes thereon stated*. However, nothing herein shall be construed as creating an obligation upon any governing body to perform any act of construction or maintenance within such dedicated areas except when the obligation is voluntarily assumed by the governing body."

177.091 Plats made for recording: this section has 29 requirements that must be adhered to by the persons recording a plat. Three of them are:

(9) Each plat shall show the section, township, and range as applicable, or, if in a land grant, the plat will so state.

(10)The name of the city, town, village, county, and state in which the land is being platted is situated, shall appear under the name of the plat.

(11) Each plat shall show a description of the lands subdivided, and the description shall be the same in the title certification. The description must be so complete that from it, without reference to the plat, the starting point and boundary can be determined.

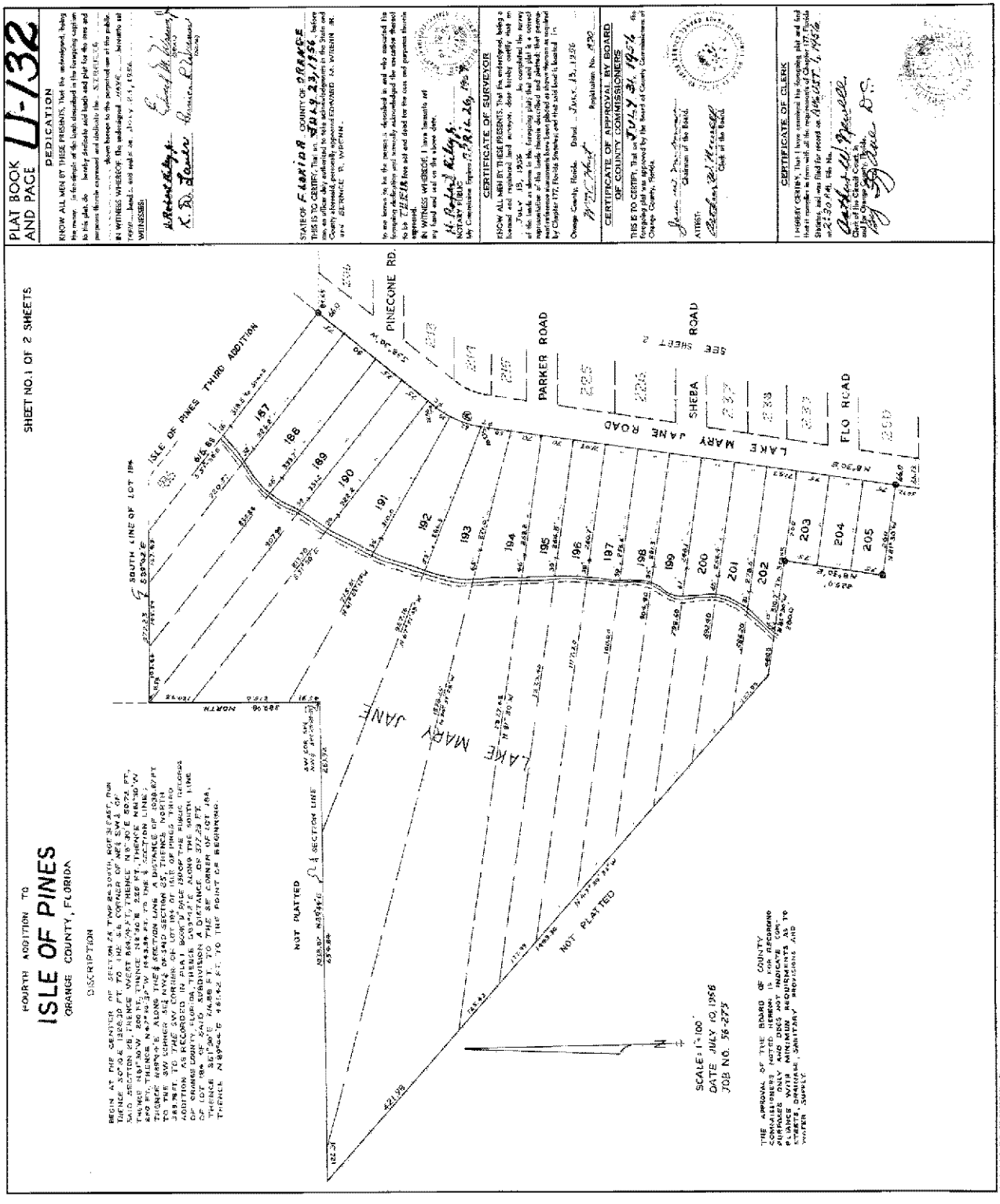


Figure 4.2 Recorded Plat

FOURTH ADDITION TO

ISLE OF PINES

ORANGE COUNTY, FLORIDA

DISCRIPTION

BEGIN AT THE CENTER OF SECTION 25, TWP 24 SOUTH, RGE 31 EAST, RUN THENCE S0°10'E 1328.30 FT. TO THE S.E. CORNER OF NE¼ SW¼ OF SAID SECTION 25, THENCE WEST 864.74 FT., THENCE N8°30'E 50.72 FT., THENCE N81°30'W 200 FT., THENCE N8°30'E 225 FT., THENCE N81°30'W 280 FT., THENCE N47°34'32"W 1443.34 FT. TO THE ¼ SECTION LINE, THENCE N89°44'E ALONG THE ¼ SECTION LINE A DISTANCE OF 1038.87 FT. TO THE SW CORNER SE¼ NW¼ OF SAID SECTION 25, THENCE NORTH 389.98FT. TO THE SW CORNER OF LOT 184 OF ISLE OF PINES THIRD ADDITION AS RECORDED IN PLAT BOOK "U" PAGE 130 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, THENCE S89°42'E ALONG THE SOUTH LINE OF LOT 184 OF SAID SUBDIVISION A DISTANCE OF 377.23 FT. THENCE S51°30'E 616.88 FT. TO THE SE CORNER OF LOT 186, THENCE N89°44'E 461.42 FT. TO THE POINT OF BEGINNING.

Figure 4.3 Plat Description

State of Florida

Cadastral Mapping Guidelines

Compiled by the:

Florida Department of Revenue
Property Tax Administration
Mapping & GIS Section

In cooperation with the:
Florida Geographic Information Board

Table of Contents

Section 1

1.0 Introduction

The principal responsibility of the county property appraiser is to locate, inventory, and appraise all property within the jurisdiction. A complete set of maps is necessary to perform this function. Maps help determine the location of property, indicate the size and shape of each parcel, and reveal geographic relationships that affect property value. Maps and map data are important not only for property appraisers, but for other agencies and individuals.

To make maximum use of data on land parcels, it is desirable for jurisdictions to try to develop a multipurpose cadastre. A multipurpose cadastre furnishes a framework to record, store, and provide comprehensive land information at the parcel level, and makes it possible to share parcel data among all users of the data.

A multipurpose cadastre should have the following components: a series of current, accurate, large-scale photogrammetric base maps that are tied to a geodetic network; cadastral overlays delineating all real property parcels; a unique identifier assigned to each parcel that is used as a common index to all land records; and a series of land files each containing the parcel identifiers in addition to other data.

Any jurisdiction that undertakes a cadastral mapping program should work with other agencies to establish a multipurpose cadastre.[1]

1 International Association of Assessing Officers (IAAO), Standard on Cadastral Maps and Parcel Identifiers, 1988

These guidelines have been compiled by the Florida Department of Revenue, Property Tax Administration Program, Mapping & GIS Section to provide direction and assistance to the county property appraisers of the state.

1.1 Applicability

These guidelines apply to all county property appraisers or any other agency, institution, or corporation engaged in the preparation of maps for purposes as specified in Chapter 193.085 FS. Portions of these guidelines are practical only in a digital environment. Currently operating map programs which are technically or structurally unable to comply are not required to retrofit to these guidelines, but are encouraged to implement as many of these guidelines as soon as possible.

1.2 Staffing and Training

An effective mapping program requires adequate staff support. Staffing needs will depend on the type of mapping system and the size of the jurisdiction. All mapping personnel should receive training in procedures that are appropriate to the jurisdiction.[2]

In addition to traditional cadastral mapping skills and knowledge such as drafting, photogrammetry, and land transfer principles, among others, it may be desirable that personnel should also be capable of performing system analysis and design, database management, network administration, and computer operations. Adequate resources should be allocated to ensure that new and existing personnel receive appropriate periodic training.

Section 2

2.0 Base Map Development

A base map is a geometric control feature in a digital mapping system that permits many other specialized theme layers to be brought into absolute position by registration on the base map (See Appendix A). There are three general themes or layers of base map content that will permit registration of most other themes or layers: boundaries, roads, and water features. Boundaries can be divided into three classes: public land survey boundaries, parcel boundaries, and political boundaries.

2.1 Paper to Digital Conversion

Any approach to remapping should begin with a determination of the desired outcome of the project based on user needs and accuracy requirements prior to hardware and software purchases. Quality control measures should be implemented throughout the course of the project. There are several methods of converting paper maps to the

2 International Association of Assessing Officers, (IAAO) Standards on Cadastral Maps and Parcel Identifiers, 1988

computer. Each method must follow these fundamental principles to be successful. The alternatives of scanning, board digitizing and coordinate geometry must be evaluated to determine the most desirable method to be employed for each portion of a mapping project. Most mapping strategies will probably use a combination of conversion methods to effect the optimum conversion strategy for an entire project. Care should be taken to plan each project with adequate time and resources to ensure a final product that will meet the standard of accuracy determined for the project.

1. The source document must be of usable quality.
   a. Legible or restorable.
   b. Accurate in scale and direction.
   c. There are adequate sources to cover the area mapped.
   d. Source documents are accessible and available.

2. There is adequate control to locate the map in the real world.
   a. The frequency of the control ensures that all map portions are fitting properly.
   b. The dispersion of the control ensures that there is no distortion in areas of difficult fits.
   c. Controlled photos of project area should be inventoried and evaluated for use.
   d. All existing digital coverage should be inventoried and evaluated for control potential.

3. Coordinate geometry (COGO) should be implemented as much as possible to ensure consistency between recorded instruments, as built designs, other available digital maps, and the base map. Although coordinate geometry is usually regarded as the most accurate method of base map construction, it is sound practice to integrate the COGO work with existing reliable digital sources to ensure accuracy and consistency and minimize the expense and effort of the duplication of existing digital work. When inconsistencies between the property records and other mapping sources (i.e.: photo evidence) appear, a thorough investigation should be initiated to discover all the relevant evidence to make the judgement for locating the element on the map accurately. The recorded instrument remains the authoritative record upon which all property valuations must rely. If the record conflicts with the evidence of the map, the recourse for the mapper is to identify the discrepancy for reconciliation by the proper authorized parties.

4. Hardware and software should be evaluated and chosen that will implement the conversion successfully.

   a. Scanners should be of adequate resolution to convert source documents to a pixel size that will support desired accuracy.
   b. Scanners should support an adequate number of shading levels to reproduce the detail of the original document to the screen.

c. Scanners should be of adequate size to accommodate source material with a minimum of cutting or folding.
d. Digitizer resolution should support accuracy required.
e. Computer processing and storage must have the capacity to process and store large raster files.
f. The video adapter and monitor of the system must allow clear viewing of digitized materials.
g. The software employed must offer adequate manipulation tools to capture and enhance source documents.
h. The software employed must be friendly enough to ensure consistent, accurate use by trained operators.
i. Software employed must provide all the tools required to ensure accurate fitting of digitized source to project.
j. Software employed should facilitate quality control procedures.

5. Operators are trained and follow sound conversion procedures.

6. Quality control is frequent and thorough.

2.2 Outsource

Several vendors are available who can provide services ranging from technical assistance to turn-key systems, complete with periodic updates of map changes. Costs vary depending on the approach to conversion and the level of service provided. Careful consideration should be given to the costs and services provided, as well as ultimate ownership and use of the data generated. An in-house quality control program is essential to ensure that the product delivered is according to predetermined specifications.

Section 3

3.0 Accuracy

Map accuracy is the degree toward which any given feature(s) on a map conforms to its true position on the ground.

3.1 Benefits

The direct benefit of map accuracy is to ensure accurate spatial representation of mapped features not only on cadastral maps, but also for features included in other map themes such as those used for planning, permitting, routing and emergency services. Accurate cadastral maps aid property appraisers in the determination of equitable assessments throughout the jurisdiction.

3.2 Control

A base map consists of geometrically controlled features in digital mapping system that permits many specialized theme layers to be brought into absolute position by registration on the base map. A base map that would support property appraisal has three base components (Geodetic Control, Public Land Survey System, and Parcel Boundary) that permit the overlaying of other themes: boundaries, roads, and water features.

3.3 Horizontal Accuracy

Horizontal accuracy should meet or exceed U.S. National Map Accuracy Standards (NMAS). NMAS are reproduced in Appendix B of this document. Note, however, that adherence to NMAS can usually be achieved only when maps are compiled directly by survey, GPS, and/or photogrammetric methods.

U.S. National Map Accuracy Standards require that at scales of 1:20,000 and larger (for example, 1:12,000, 1:1,200) that 90% of a randomly chosen sample of well-defined map features will be on the map within 1/30 inch (0.03 inches) (at scale) of their true location on the ground. The table below illustrates the positional accuracy of several relevant scales.

Scale Horizontal Accuracy

1:1,200 + or - 3.33 feet

1:2,400 + or - 6.67 feet

1:4,800 + or - 13.33 feet

1:9,600 + or - 26.67 feet

1:10,000 + or - 27.78 feet

1:12,000 + or - 33.33 feet

3.4 Scale Mixing

The mixing of digital map data of widely divergent scales into a common database should be avoided, as the positional accuracy of the aggregate database would be considered to be no better than that of the smallest scale.

Section 4

4.0 Projections and Coordinate Systems

The following projections and coordinate systems are recommended for the input, storage, and in particular, the exchange of digital map data. It is recommended that cadastral maps in Florida be based upon state plane coordinates adjusted to the 1983 (1990 readjustment) horizontal datum. Other projections and coordinate systems may be used to satisfy special requirements.

4.1 Florida Coordinate Systems (1927 and 1983 datums)

The Florida Coordinate Systems, 1983/90 datum, in which map distortion has been minimized by dividing the state into three zones (See Appendix C) must, by state law, be used for surveying and the compilation of engineering maps. These systems may also be used for the compilation of regional maps, but since they do not provide uninterrupted coverage of the entire state, such mapping should not extend beyond the limits of any given zone. These systems may be used for the input, storage, and exchange of digital map data, as well as for the output of hardcopy maps.

4.2 Latitude - Longitude (Geographic)

Latitude - Longitude is a projectionless coordinate system that may be used for the input, storage, and exchange of digital map data. Although it may also be used for the output of hardcopy maps, it is not structurally suited for that purpose.

4.3 Universal Transverse Mercator (UTM)

The Universal Transverse Mercator map projection system may be used for regional mapping, but like the State Plane Coordinate Systems, such mapping should not extend beyond the limits of any given zone. This system may be used for the input, storage, and exchange of digital map data, as well as for the output of hardcopy maps.

4.4 Transverse Mercator Projection

The Transverse Mercator map projection is based on an imaginary cylinder covering the area of interest. This projection is best for areas that lie in a north-south direction such as the Florida peninsula. This system may be used for the input, storage, and exchange of digital map data, as well as for the output of hardcopy maps.

4.5 Lambert Conformal Conic Projection

Lambert projects an imaginary cone to cover the area of interest and has greater east-west integrity than north-south such as the Florida panhandle area. This system may be used for the input, storage, and exchange of digital map data, as well as for the output of hardcopy maps.

Section 5

5.0 Cartography

Map design considerations determine whether a map is legible and easily interpreted. The following cartographic elements should appear on all cadastral maps in order to facilitate functionality, while other elements may be included as optional according to local needs or resources.

5.1 North Arrow

An arrow-like symbol indicating the direction to which the control framework of a map or drawing is referenced.

5.2 Scale Representation

Since maps must necessarily be smaller than the areas mapped, their use requires that the ratio or proportion between comparable measurements be expressed on the map. This is called map scale and should be the first thing of which the map user becomes aware.[3] Scale should be expressed as a statement of map distance in relation to earth distance or a graphic (or bar) scale or both.

5.3 Map Date

The actual date the map was plotted should be prominently displayed.

5.4 Title Block

A title block may include such items as county and state names, scale, north arrow, legend, plot date, disclaimer, and map index, among others.

3 Elements of Cartography, Fourth Edition, John Wiley & Sons Inc., 1978, pg. 46

5.5 Disclaimer

Disclaimers are used to limit and define the map author's responsibility for the content, accuracy, and currency of a map. Although some maps may require specialized disclaimers, the following disclaimer represents one suggestion:

> "This map is the product of *Agency, Division* and was printed on *Date.* This map was produced with the intent that it be used for *Purpose* at the scale of *X*. There are no warranties made as to the fitness of this map for any unlisted purpose or reproduction at any other than the original scale."
>
> The agency can complete the italicized sections with appropriate information relating to the agency and the purpose of the map.

5.6 Lines and Other Delineations

Certain lines are basic and are expected to appear on any cadastral map. Significance of some lines may be distinguished by line weight.

5.6.1 Public Land Survey System Lines (PLSS)/Land Grant Lines

Rule 12D-8.008, (1), (a), Florida Administrative Code, requires all descriptions (and thus parcel maps) to be based upon reference to the government grid survey system.

5.6.2 Parcel Lines

Parcel, or boundary lines of all assessed property. Parcel lines may include the following line types: subdivision, block, right-of-way, hydrographic.

5.6.3 Lot Lines

All recorded subdivision lot lines, except that when said lines are not coincident with parcel boundary lines they may be displayed as "broken lines" and/or maintained in a separate layer.

5.6.4 Block Lines

Recorded subdivision block lines.

5.6.5 Easement Lines

All easement lines that present a significant influence on property value should be displayed. A significant influence on property value may occur in the presence of an easement that is not general or common to all properties (i.e. conservation

easements, drainage easements, and ingress and egress or right-of-way easements).

5.6.6 Right-of-Way Lines

Road, utility, and railroad right-of-way lines form parcel boundaries.

5.6.7 Hydrographic Lines

Water boundaries (i.e. seas, lakes, streams, rivers) forming parcel boundaries, or where significant to value.

5.7 Annotation

Lettering a map means the preparation of this aspect of the artwork, which includes all the names, numbers, and other typographical material.[4] Procedures for the placement and size of annotation should be developed by each jurisdiction. Accurate interpretation of a map is dependent upon the annotation placed thereon. Certain elements of annotation are expected to appear on any cadastral map.

5.7.1 Acreage

Rule 12D-1.009, Florida Administrative Code states that all acreage of parcels over one acre in size, where known, are to be reflected on the map. Where known as used in the rule means acreage from instruments of title as are usually recorded in the public records of the county.

5.7.2 Dimensions

Rule 12D-1.009, Florida Administrative Code states that all dimension of parcels over one acre in size, where known, are to be reflected on the map. Where known as used in the rule means dimensions from instruments of title as are usually recorded in the public records of the county.

5.7.3 Lot Numbers

Numbers of all recorded subdivision lots, all Government Lots, and where applicable, numbers of lots in "unrecorded subdivisions".

5.7.4 Block Numbers

Numbers of blocks in all recorded subdivisions and where applicable, numbers of blocks in "unrecorded subdivisions".

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4 Elements of Cartography, Fourth Edition, John Wiley & Sons, Inc., 1978

5.7.5 Street, Road, Right-of-Way Names

Names and/or route numbers of streets, roads, and rights-of-way forming parcel boundaries.

5.7.6 Subdivision and Condominium Names

Names or reference codes of all subdivisions and condominiums. Where only reference codes are utilized it is suggested that an associated legend be shown.

5.7.7 Easements

Where easements are shown it is recommended that the type of easement be displayed.

5.7.8 Parcel Numbers

See Section 10 of this document.

Section 6

6.0 Map Compilation

Five major tasks need to be considered when actually developing a parcel map system.[5] These tasks include:

1. Assembling and weighting source data
2. Constructing a framework for the parcel maps
3. Compiling the boundaries of parcels
4. Adding notation as needed
5. Maintenance
6. Quality control

The issues of annotation and maintenance are addressed in Section 5.8 and Section 7.0, respectively, of this document.

6.1 Assembling Source Data

The first task in the creation of a parcel map is to assemble relevant records from appropriate sources. These sources include but are not limited to:

5 Multipurpose Land Information Systems: THE GUIDEBOOK, October, 1989, Federal Geodetic Control Committee, Chapter 13

1. Title records
2. Assessment records
3. Infrastructure records (highways, utilities, transmission lines, etc.)
4. Land use and zoning regulation records
5. Resource and environmental records
6. Court records
7. Survey records (plats, plans, and surveyor notes)
8. Aerial photographs
9. U.S. Geological Survey maps
10. Government Land Office Surveys (township plats and notes)
11. Existing parcel (or tax) maps.

Highly weighted information should be plotted first and held fixed, while lower-weighted information is fitted to it.[6] Highly weighted information means the most precise and accurate data available, upon which the highest degree of reliance can be placed.

Weighting source data is a process by which you classify your mapping data, from the geodetic control to the parcel descriptions. It can and will determine the validity and accuracy of your maps. It should be done by a person with extensive cadastral mapping experience and a good working knowledge of surveying principles and practices.

It should be noted that the various sources of control will likely be based on unrelated reference systems or bases. It is imperative that a single reference base be chosen for the entire jurisdiction being mapped and that all subsequent survey data be "rotated" to the common control base.

6.2 Constructing a Framework for the Parcel Maps

The framework for parcel mapping establishes a link to a ground control system that is common to all maps in a digital mapping system. This linkage has two forms: 1) direct ties by ground surveys between the National Geodetic Reference System (NGRS) and the legal referencing system for parcels and 2) the planimetric detail of the base map.

6.3 Compiling the Boundaries of Parcels

Once relations between locations that constitute the framework are determined, the process of placing parcels within the framework begins. This process depends upon a prioritization of the parcel records and data.

While all aspects of parcel mapping are important, particular attention should be focused on ensuring that all parcels are accounted for.

6 Multi Purpose land Information Systems: THE GUIDEBOOK, October, 1989, Federal Geodetic Control Committee, Chapter 19

6.3.1 Map Boundary Compilation Issues

To effectively display and perform analysis on mapped data, consideration should be given to the following issues:

1. Tax district or taxing unit boundaries shall split contiguous ownership into separate parcels. Exceptions to this rule are subdivided lots that are already described in their smallest legal division. When a taxing district or line cuts through a subdivision lot, it shall be parcelled in the district where the largest volume of land occurs or where the improvement is located, wherever practical.[7]

Section 7

7.0 Map Maintenance

It is important that cadastral maps be a reflection of the respective county's tax roll. A regular maintenance program should be implemented to assure that the maps are current and accurate.

7.1 Updating

There should be a direct correlation between what is depicted on a parcel map and the assessment roll.

7.2 Quality Control

Standard procedures for quality control should be established to continuously edit and inspect all ownership maps for accuracy, neatness, and completeness.

Section 8

8.0 Land Descriptions

Real property descriptions prepared for the assessment rolls shall conform to the minimum requirements as set forth in Rule 12D-8.008, F.A.C. Descriptions should be written so as to afford a taxpayer adequate notice of the tax assessed against his property. Furthermore, such clarity in a description would reduce errors in the tax sale process.

---

7 International Association of Assessing Officers, Standards on Cadastral Maps and Parcel Identifiers, 1988, page 25

8.1 Interpretation

Omission of qualifying and descriptive words and phrases should be avoided, as should unnecessary abbreviations, which would render the description nonsensical. Remainder descriptions of a parcel that has been divided should be written as negative, that is, by excepting the portion from the parent parcel for which an accurate description appears of record.

8.2 Abbreviation

It is preferable, for clarity, to avoid the use of abbreviations in property descriptions except for those words or phrases that are commonly abbreviated. In such cases, usage should be made in accordance with the abbreviations and their associated meanings as given in Rule 12D-8.008, 2, (d), F.A.C.

8.3 Condensing Descriptions

This is a difficult and important process and should be avoided except in extreme cases. Reducing the length of descriptions by using accepted standard abbreviations and eliminating unnecessary wording results in a more compact assessment roll, however qualifying words and phrases should never be eliminated. When bearings and dimensions are used, rounding and truncating should be avoided. If condensing a land description is necessary the corresponding public record (i.e. official record book and page) should be referenced.

Section 9

9.0 Land Description Conflicts and Solutions

Some of the errors, problems, and omissions encountered in land descriptions are discussed and suggested solutions offered in the sections, which follow.

9.1 Double Assessment

Double assessment is the most common error found on the assessment roll and is described as a parcel that appears on the assessment roll twice, in part or in its entirety. Parcels that are double assessed in their entirety are usually the result of errors copying, or condensing, from the source document, or failure to except a parcel from the original description.

9.2 Omitted Areas

Omitted areas are frequently the result of the excepting of an exempt parcel from a description and failing to list the descriptions for these areas. These descriptions may frequently be located in assessment rolls for prior years.

9.3 Parcel in Vacated Portion of Plat

Vacated portions of a plat have the same status as any other acreage property and should be assessed by a metes and bounds description. Plats not vacated but which are superseded by a plat recorded at a later date should be dropped from the assessment roll. The plats or parts recorded last take precedence over all earlier recorded plats of the same area.

9.4 Government Lands

The land of any governmental unit is to be mapped in the same manner as all other lands.

9.5 Islands

Islands within an assessing district are to be mapped the same as other areas of a county. The (U.S.G.S.) quadrangle maps will usually give the island name.

9.6 Addressing Erroneous Descriptions

Cadastral mapping will occasionally reveal errors in deed descriptions such as gaps, gores, overlaps and the failure to mathematically close. It is not within the scope of the duties of the property appraiser or the cadastral mapper to attempt to resolve such discrepancies. Efforts may be made to contact deed scriveners or parties in the transaction to reveal the discrepancy.

Section 10

10.0 Parcel Numbering

A parcel identification system provides a method for referencing land parcels, or data associated with parcels, using a number or code instead of a complete legal description. The correlation of maps and individual property records requires that all parcel files be indexed using a uniform parcel identifier.

There are three basic forms of parcel identifiers in common use: location identifiers, name-related identifiers, and alphanumeric identifiers. The primary identifier for assessment purposes should be a location identifier.

A location identifier is one in which the parcel number provides the location of the parcel. Examples include map-based identifier systems, geographic coordinate identifier systems, or identifiers related the Public Land Survey System.

Parcel identifiers should be unique and permanent, that is assigned to one and only one parcel and should change only when the boundaries of the parcel change, and a new parcel is created.[8]

It is recommended that, when mapping is accomplished digitally, a centroid, or geographic coordinate system of parcel identification, based upon the Florida State Plane Coordinate System be established as a secondary method of identification. Parcel identifiers using this system are composed of x and y coordinates for a single point, usually the approximate center of the parcel. The following example illustrates such a concept:

Parcel (polygon) Centroid: This number would consist of 19 numeric character fields in the current 12D-8 (NAL) file that is submitted to the Department of Revenue annually. It would be added to the end of the existing record layout and broken out as follows:

Fields 1 through 7 would represent whole numbers left of the decimal in the State Plane Coordinate Easting (X) value;
Fields 8 through 14 would represent whole numbers left of the decimal in the State Plane Coordinate Northing (Y) value;
Fields 15 through 17 would represent condominium unit, if applicable. (Units 1-999);
Field 18 and 19 would denote the Datum (ie. 27= 1927 datum, 83=1983 datum).

Since the State Plane Coordinate zone boundaries follow county boundaries and the Department requires a county code number (first 2 character fields) as part of the 12D-8 record layout, there is no need to indicate the zone nor further identify the county.

This number can be generated in two ways:

(1) Software generated; Most, if not all CADD/GIS software that are polygon based generate this number automatically when a polygon (parcel) is built. It calculates the mathematical centroid of that polygon. In many cases it is the tag (or label) point. However, in some cases the mathematical center of the polygon could fall outside of the actual polygon boundary. In those cases, or if the county chooses not to use this method, the following is an alternative method:

(2) Manually generated; The mapper and/or CADD operator can physically pick the centroid point with the mouse.

As long as the actual point falls within the parcel boundary, either means is acceptable.

8 International Association of Assessing offices, 1988, Standard on Cadastral Maps and Parcel Identifiers, page 10

This number would not be a replacement to the current parcel number now in place in all 67 counties, however it would be in addition to that number and would provide an actual physical location to all parcels within the state. It is up to the discretion of the property appraiser whether this record is maintained throughout the year or only generated at the time of tax roll submission.

Section 11

11.0 Data Archival

It is recommended that each jurisdiction implement a plan for archival of digital map data.

In order to avoid loss of digital map data in the event of mechanical failure, a back-up copy of the map data base should made on a regular schedule. The frequency, method, and media used for data back up will be determined by the jurisdiction's maintenance schedule.

Consideration should be given to off-site storage of the map data base to protect against the loss of on-site archived data in the event of theft, fire or natural disaster.

Section 12

12.0 Data Exchange Standards

Various methods of data exchange used by state, regional, local governments and private sector organizations depend on the complex matrix of hardware and software systems in place at both the source and target organizations. In determining the most desirable exchange format, considerations must be made for the preservation of accuracy and completeness, transfer efficiency, the data type (vector or raster) and the intended use of the data. In addition, compliance with F.S. 119 should also be assured.

12.1 Native and Direct Data Exchange Formats

Native data exchange formats for vector and raster data should be used for transfers between like software systems. If a direct exchange format exists between two dissimilar GIS software systems, it should be used only after a detailed investigation based on the considerations stated above in section 12.0.

12.2 Common Data Exchange Formats

Common exchange formats listed below should be used when vector data exchange in native and direct exchange formats are not available. If compression of data is used to

reduce file size be certain that the receiving agency has the appropriate software to read the data.

- **ESRI Export Format (.e00)**
- **ESRI Shape File (.shp)**
- **Spatial Data Transfer Standard (SDTS)**
- **Drawing Exchange Format (DXF)**
- **Digital Line Graphs (DLG-3) standard or optional format**
- **Initial Graphics Exchange Standard (IGES) Version 3**
- **Standard Interchange Format (SIF)**

12.3 Data Exchange Media

Various data exchange media are dependent on the hardware systems installed at the source and target organizations. The users exchanging data will determine the best media based on available network connections, modem connections, available input and output devices, CDROM or other transfer media.

Section 13

13.0 Metadata

Metadata are commonly defined as the data about data or the data about the processes performed on data. The major uses of metadata are:

- To maintain an organization's internal investment in geospatial data.
- To provide information about an organization's data holdings to data catalogues, clearinghouses, and brokerages, and
- To provide information needed to process and interpret data to be received through a transfer from an external source.[9]

13.1 Federal Geographic Data Committee (FGDC) Metadata Standards

It is recommended that consideration be given to documentation of the data utilized in the construction of cadastral maps. The State of Florida Geographic Information Board (GIB) has chosen to adopt the full Federal Geographic Data Committee (FGDC) Content Standard for Geospatial Metadata, and reserves the right to add to this content standard as necessary to accommodate the needs of the citizens of the State of Florida. It is further recommended that the FGDC Content Standard for Geospatial Metadata be referred to as a template for documenting the quality and source of cadastral map data.

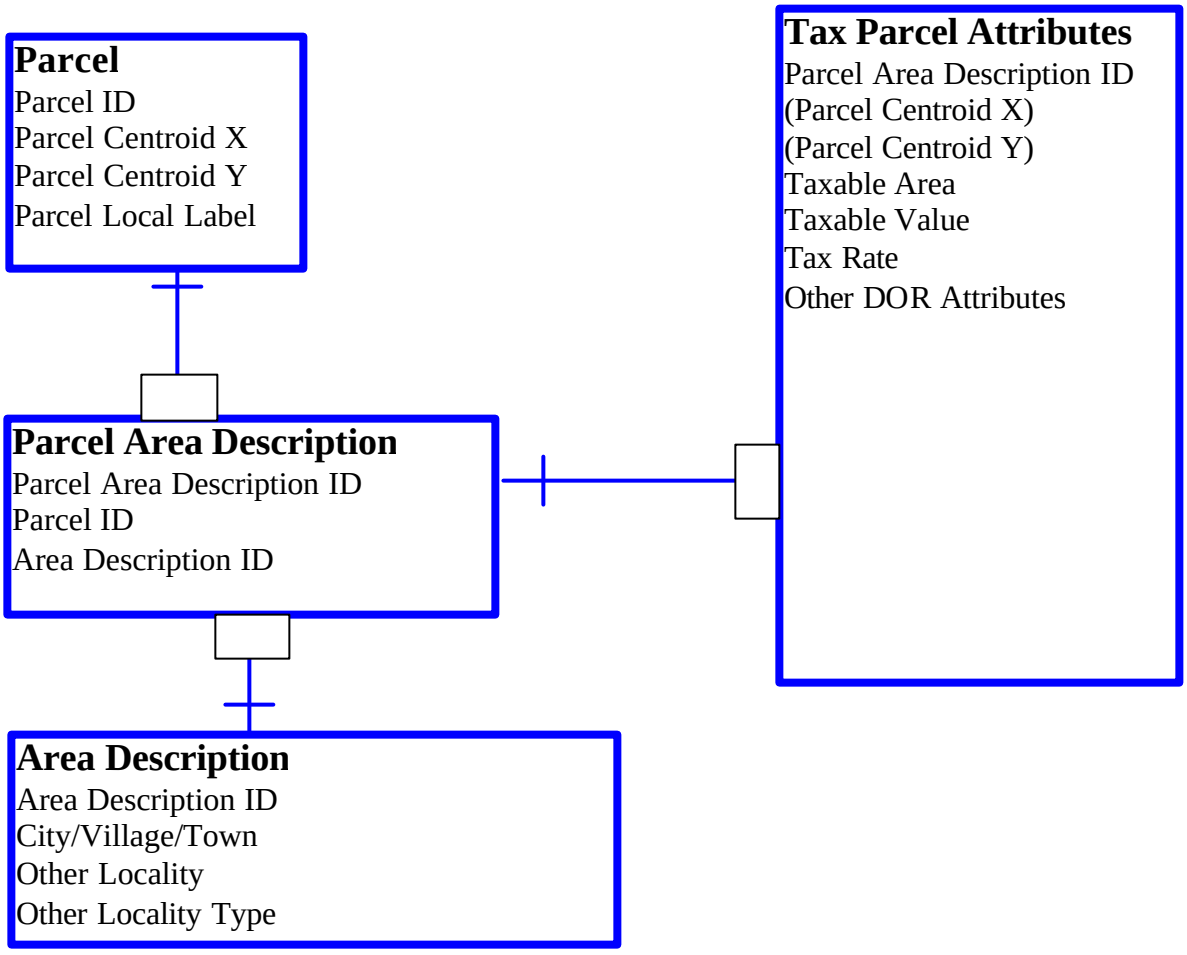
9 Federal Geographic Data Committee, Cadastral Standards for the National Spatial Data Infrastructure

Section 14

14.0 Data Base Design

Particular attention should be paid to data base design and organization to facilitate data exchange among state and local governmental agencies. The following illustrates a logical model for tax parcel geometry and tabular data intended for newly designed systems, if desired.

14.1 Logical Model for Tax Parcel Geometry and Tabular Data



This diagram illustrates the core components for transferring the geometry of tax parcels. In this diagram, the parcel is assumed to be the tax parcel. The parcel boundaries have been determined by the local government prior to transfer. The method for computing the boundary of each parcel, such as coordinate geometry or best fit to an orthophoto, are not being transferred in this example. The parcel geometry is expressed as a Shape (or similar) file.

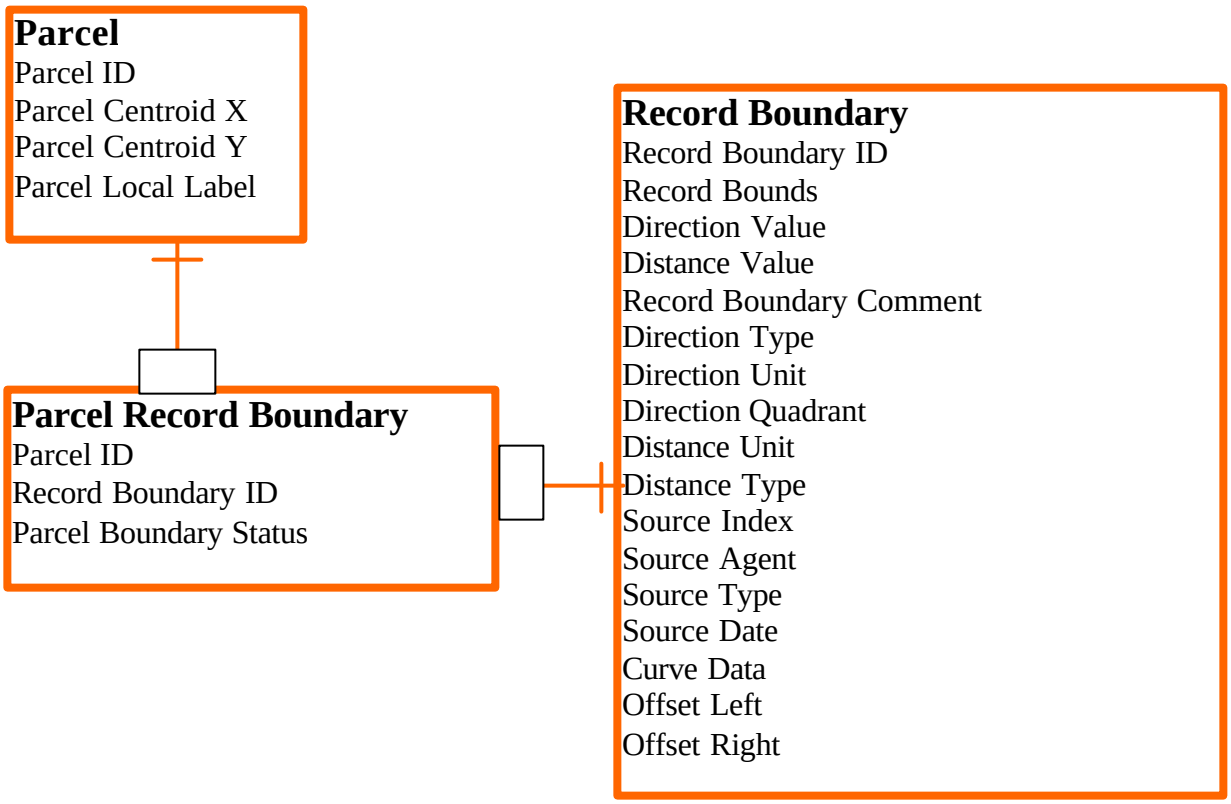
This model indicates that the polygons or areas that define cities, villages and towns and other tax districts may be separate shape files. For example, if the boundaries of the cities, village, and towns come from a different source than the parcels or are stored on a separate layer or as a separate object or separate graphic, then these items should be transferred as separate shape files. In these cases, the metadata for the cities, villages, and towns and other tax districts would be different than the metadata for the parcels.

If the city, village, and town are carried as attributes of the parcel, then any time a new city, village, or town or tax district intersects an ownership parcel, a new tax parcel is created. In this case the attributes for city, village and town and tax districts would be in the same Shape file as the parcel.

By connecting the tabular tax records to the intersecting entity, both scenarios are accomplished.

In the related tabular data file the primary key form the joining of the parcel to the tax districts is carried as the database primary key. The additional attributes for Parcel Centroid X and Parcel Centroid Y were added explicitly. In a relational database system this is not necessary, but is included to show that the linkage could also be made in this way.

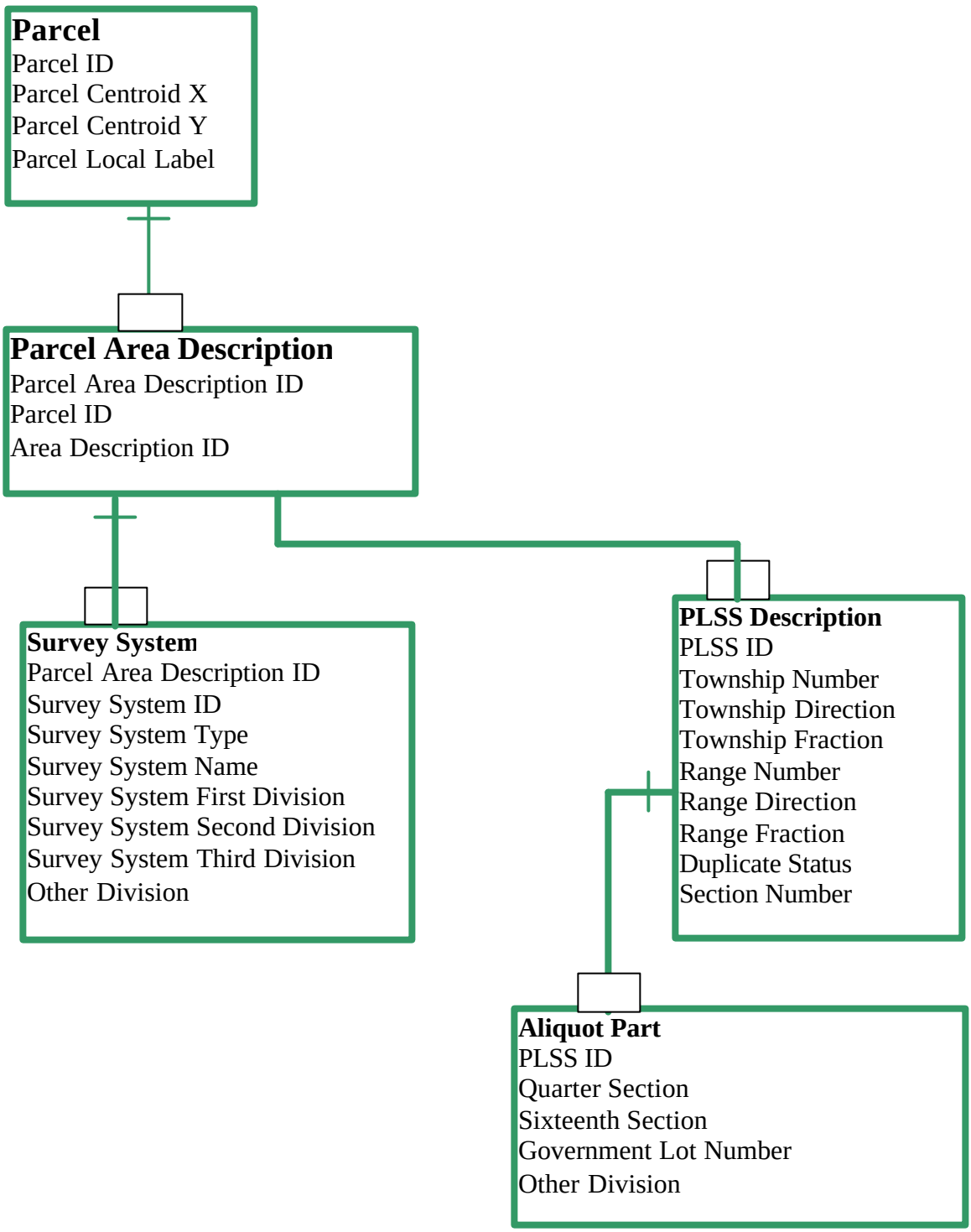
14.2 Logical Model for Tax Parcel Boundary Geometry



This diagram illustrates the core components for transferring the boundary information for the tax parcels from local governments to the Department of Revenue. In this diagram, as in the first diagram, the parcel is assumed to be the tax parcel. These are attributes that attach to lines in a file that describe the measurement information used to generate the tax parcel boundary.

Much of the information in this diagram is captured automatically as part of the coordinate geometry or other parcel automation process.

14.3 Logical Model for Tax Parcel Legal Area Description



This diagram could be an attachment to a parcel geometry file from the first diagram or this may be part of the County's existing GIS or CAD data files. The content of this file serves as a checklist for the information that may need to be included in a boundary

information file. The logical model provides a structure for the boundary information and standardizes the content and abbreviations. This standardization will make it easier to write programs to develop exports to or extract from a parcel boundary information file.

In terms of physical form, the information on units and source may be stored in separate look up tables that are then related to the line or boundary through the primary key, Records Boundary ID. It is also possible to further standardize the curve information and pull it out to a look up table as well.

Section 15

15.0 Glossary of Terms

absolute map accuracy. The accuracy of a map in relationship to the earth's geoid. The accuracy of locations on a map that are defined relative to the earth's geoid are considered absolute because their positions are global in nature and accurately fix a location that can be referenced to all other locations on the earth.

base map. A map showing certain fundamental information, used a base upon which additional specialized data are compiled.

cadastre. An official register of the quantity, value, and ownership of real estate; used in determining property value.

cadastral map. A map showing the boundaries of subdivisions of land, for the purposes of describing and recording ownership; used in determining property value.

compilation. (1) Cartography: the production of a new or revised map or chart, or portion thereof, from existing maps, aerial photographs, surveys, new data, and other sources. (2) Photogrammetry: The production of a map or chart, or portion thereof, from aerial photographs and geodetic control data, by means of photogrammetric instruments.

coordinates. Linear or angular quantities that designate the position of a point in a given reference frame or system. Also used as a general term to designate the particular kind of reference frame or system, such as state plane coordinates or spherical coordinates.

coordinate geometry (COGO). Automated mapping software that translates the alphanumeric data associated with a survey (distances, bearings, coordinates, etc.) into digital map information for creating and updating a digital cartographic data base.

centroid. A code (usually numerical) used to locate or identify a point, such as the center of a parcel.

Florida High Accuracy Reference Network. The extension of the National Geodetic Reference System into Florida is referred to as the Florida High Accuracy Reference Network (HARN). A HARN is a statewide or regional upgrade in accuracy of the North American Datum 1983 (NAD83) coordinates using GPS observations.

geodesy. A branch of applied mathematics concerned with the determination of the size and shape of the earth and the exact positions of points on its surface and with the description of variations of its gravity field.

geodetic coordinates. The quantities of geodetic latitude or longitude that define the position of a point on the surface of the earth with respect to the reference spheroid.

geographic coordinates. A system of spherical coordinates for defining the position of points on the earth. The declinations and polar bearings in this system are the geographic latitudes and longitudes respectively.

Geographic Information System (GIS). A computerized data-base system for capture, storage, retrieval, analysis, and display of spatial data.

geoid. The shape of the earth as a three-dimensional spheroid that coincides with the surface of the earth at sea level and extends in an imaginary surface through the continents with a direction of gravity that is perpendicular at every point.

geometric. Of, relating to, or according to the methods or principles of geometry.

Global Positioning System (GPS). Determination of coordinates of points using a network of satellites intended for this purpose.

index map. (1) A map of smaller scale on which are depicted the locations (with accompanying designations) of specific data, such as larger-scale topographic quadrangles or geodetic control. (2) Photography: A map showing the location and numbers of flight strips and photographs.

lot. A plot of land, generally a subdivision of a city, town, or village block, or some other distinct tract, represented and identified by a recorded plat.

monument. A permanent physical structure marking the location of a survey point or boundary line. Common types of monuments are inscribed metal tablets set in concrete post, solid rocks, or parts of buildings: distinctive stone posts; and metal rods driven in the ground.

multipurpose cadastre. A framework that supports continuous, readily available, and comprehensive land-related information at the parcel level.

parcel. A single, discrete piece of land having defined physical boundaries and capable of being separately conveyed.

photogrammetry. The art, science, and technology of obtaining reliable information about physical objects and the environment through processes of recording, measuring, and interpreting images and patterns of electromagnetic radiant energy and other phenomena.

planimetric map. A map that presents only the horizontal positions for the features represented; distinguishable from a topographic map by the omission of relief in measurable form.

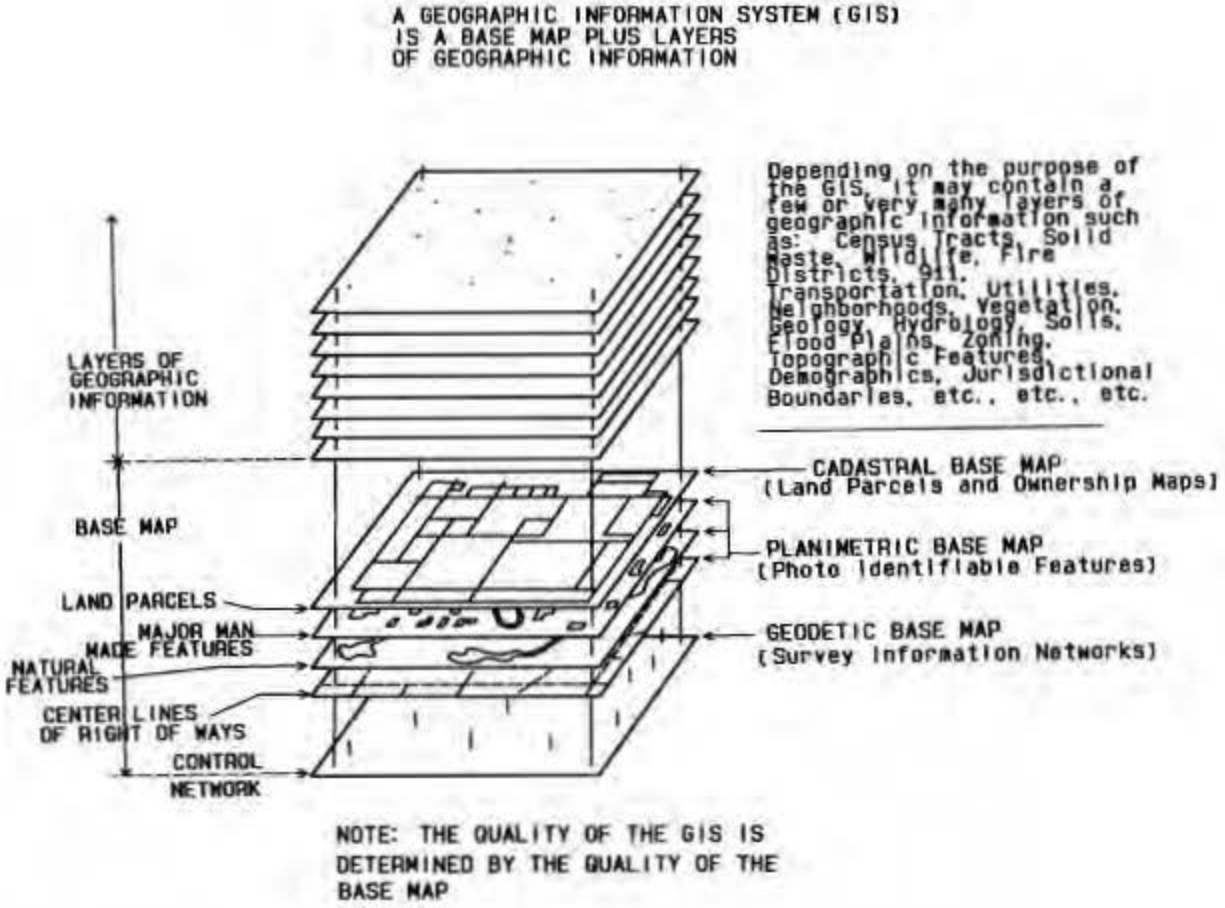
plat. A diagram drawn to scale showing all essential data pertaining to the boundaries and subdivision of a tract of land, as determined by survey or protraction.

projection. A systematic representation of all or part of the surface of a sphere onto a plane.

relative map accuracy. The accuracy of a map in relation to a local survey network that is not tied to the earth's geoid. The accuracy of locations on a map defined relative to a local survey network is considered relative because the positions are accurate only within a certain geographic area covered by the network.

state plane coordinate systems. A series of grid coordinate systems prepared by the U.S. Coast and Geodetic Survey for the entire United States, with a separate system for each state. Each state system consists of one or more zones. The grid coordinates for each zone are based on, an mathematically adjusted to, a map projection.

Appendix A


A GEOGRAPHIC INFORMATION SYSTEM (GIS)
IS A BASE MAP PLUS LAYERS
OF GEOGRAPHIC INFORMATION
Depending on the purpose of the GIS, it may contain a few or very many layers of geographic information such as: Census Tracts, Solid Waste, Wildlife, Fire Districts, 911, Transportation, Utilities, Neighborhoods, Vegetation, Geology, Hydrology, Soils, Flood Plains, Zoning, Topographic Features, Demographics, Jurisdictional Boundaries, etc., etc., etc.
LAYERS OF GEOGRAPHIC INFORMATION
BASE MAP
CADASTRAL BASE MAP
(Land Parcels and Ownership Maps)
PLANIMETRIC BASE MAP
(Photo Identifiable Features)
GEODETIC BASE MAP
(Survey Information Networks)
LAND PARCELS
MAJOR MAN MADE FEATURES
NATURAL FEATURES
CENTER LINES OF RIGHT OF WAYS
CONTROL NETWORK
NOTE: THE QUALITY OF THE GIS IS DETERMINED BY THE QUALITY OF THE BASE MAP

Appendix B

United States National Map Accuracy Standards

With a view to the utmost economy and expedition in producing maps which fulfill not only the broad needs for standard or principal maps, but also the reasonable particular needs of individual agencies, standards of accuracy for published maps are defined as follows:

1. Horizontal Accuracy. For maps on publication scales larger than 1:20,000, not more than 10 percent of the points tested shall be in error by more than 1/30 inch, measured on the publication scale; for maps on publication scales of 1:20,000 or smaller, 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible or recoverable on the ground, such as the following: monuments or markers, such as bench marks, property boundary monuments; intersections of roads, railroads, etc.; corners of large buildings or structures (or center points of small building); etc. In general what is well defined will also be determined by what is plottable on the scale of the map within 1/100 inch. Thus while the intersection of two road or property lines meeting at right angles would come within a sensible interpretation, identification of the intersection of such lines meeting at an acute angle would obviously not be practicable within 1/100 inch. Similarly, features not identifiable upon the ground within close limits are not to be considered as test points within the limits quoted, even though their positions may be scaled closely upon the map. In this class would come timber lines, soil boundaries, etc.

2. Vertical accuracy, as applied to contour maps on all publication scales, shall be such that not more than 10 percent of the elevations tested shall be in error more than one-half of the contour interval. In checking elevations taken from the map, the apparent vertical error may be decreased by assuming a horizontal displacement within the permissible horizontal error for a map of that scale.

3. The accuracy of any map may be tested by comparing the position of points whose locations or elevations are shown upon it with corresponding positions as determined by surveys of higher accuracy. Tests shall be made by the producing agency, which shall also determine which of its maps are to be tested, and the extent of such testing.

4. Published maps meeting these accuracy requirements shall note this fact on their legends as follows; "This map complies with National Map Accuracy Standards."

5. Published maps whose errors exceed those forestated shall omit from their legends all mention of standard accuracy.

6. When a published map is a considerable enlargement of a drawing (manuscript) or of a published map, that fact shall be stated in the legend. For example, "This map is an enlargement of a 1:20,000-scale map drawing," or "This map is an enlargement of a 1:24,000-scale published map."

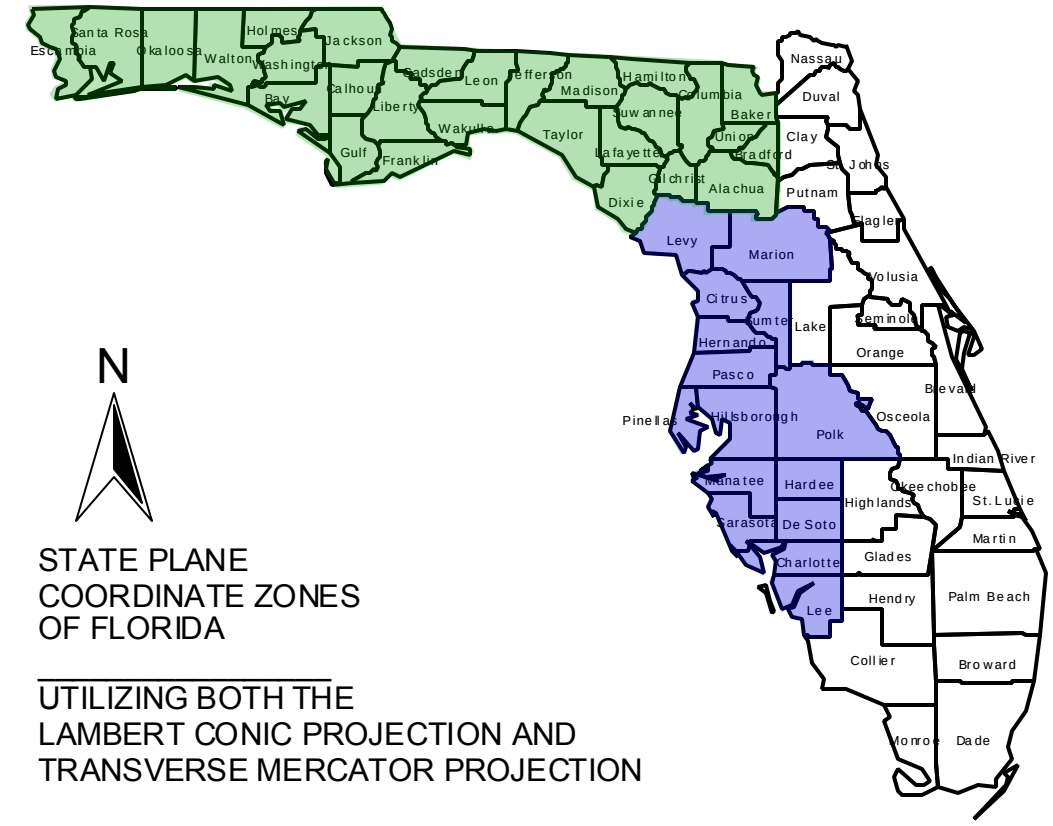
7. To facilitate ready interchange and use of basic information for map construction among all Federal mapmaking agencies, manuscript maps and published maps, wherever

economically feasible and consistent with the uses to which the map is to be put, shall conform to latitude and longitude boundaries, being 15 minutes of latitude and longitude, or 7.5 minutes, or 3-3/4 minutes in size.

U.S. BUREAU OF THE BUDGET

Issued June 10, 1941
Revised April 26, 1943
Revised June 17, 1947

Appendix C


Santa Rosa
Escambia
Okaloosa
Walton
Holmes
Washington
Jackson
Bay
Calhoun
Liberty
Gadsden
Leon
Jefferson
Wakulla
Taylor
Madison
Hamilton
Suwannee
Columbia
Baker
Union
Bradford
Gulf
Franklin
Lafayette
Gilchrist
Alachua
Dixie
Nassau
Duval
Clay
St. Johns
Putnam
Flagler
Levy
Marion
Volusia
Citrus
Sumter
Lake
Seminole
Hernando
Orange
Pasco
Brevard
Pinellas
Hillsborough
Osceola
Polk
Indian River
Manatee
Hardee
Okeechobee
Highlands
St. Lucie
Sarasota
De Soto
Martin
Charlotte
Glades
Lee
Hendry
Palm Beach
Collier
Broward
Monroe
Dade
N
STATE PLANE
COORDINATE ZONES
OF FLORIDA
UTILIZING BOTH THE
LAMBERT CONIC PROJECTION AND
TRANSVERSE MERCATOR PROJECTION
WEST
NORTH
EAST
FLORIDA DEPT. OF REVENUE
PROPERTY TAX ADMINISTRATION
GIS/MAPPING SECTION

Basic Map Compilation

The Map

Chapter 5

Table of Contents:

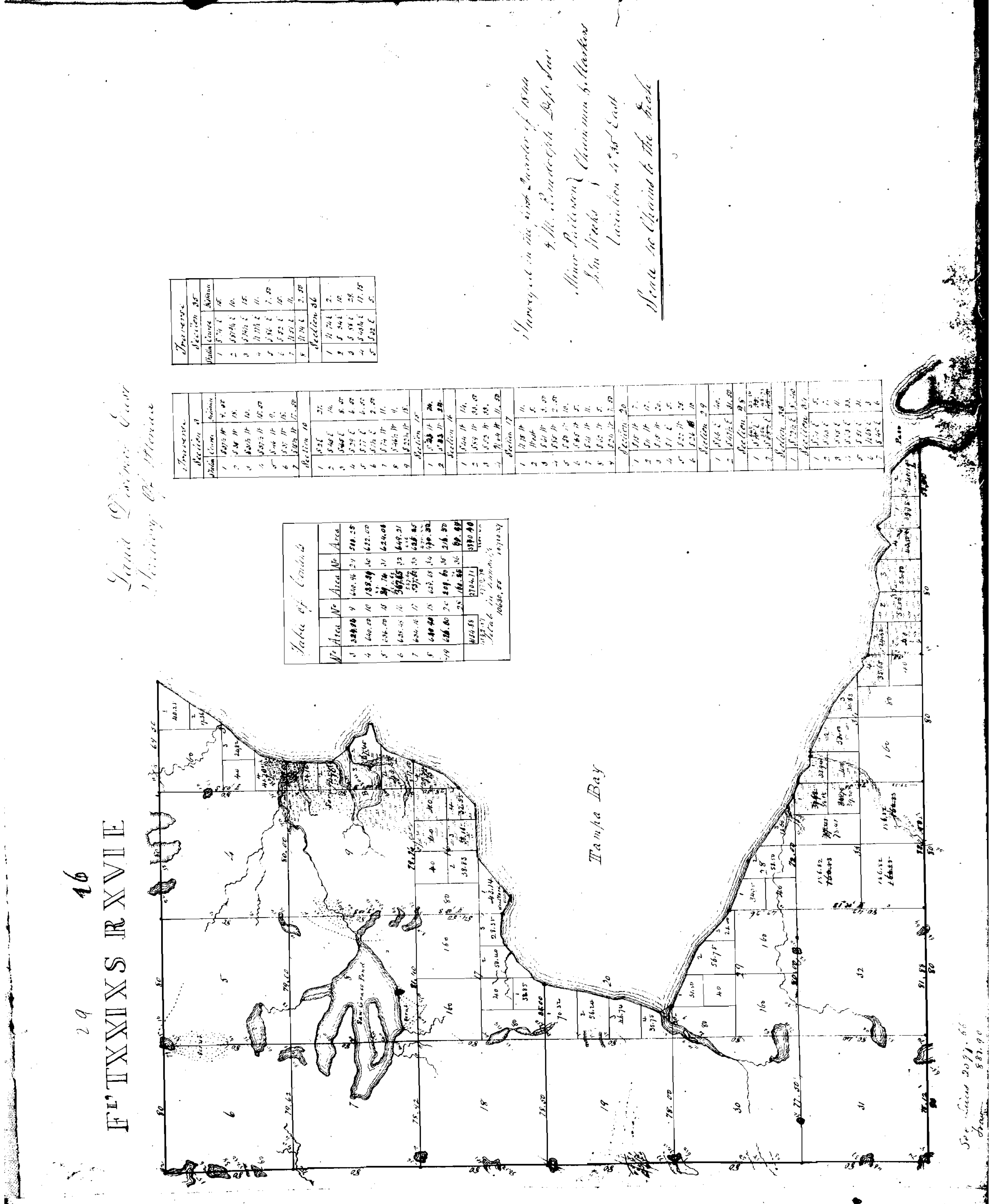
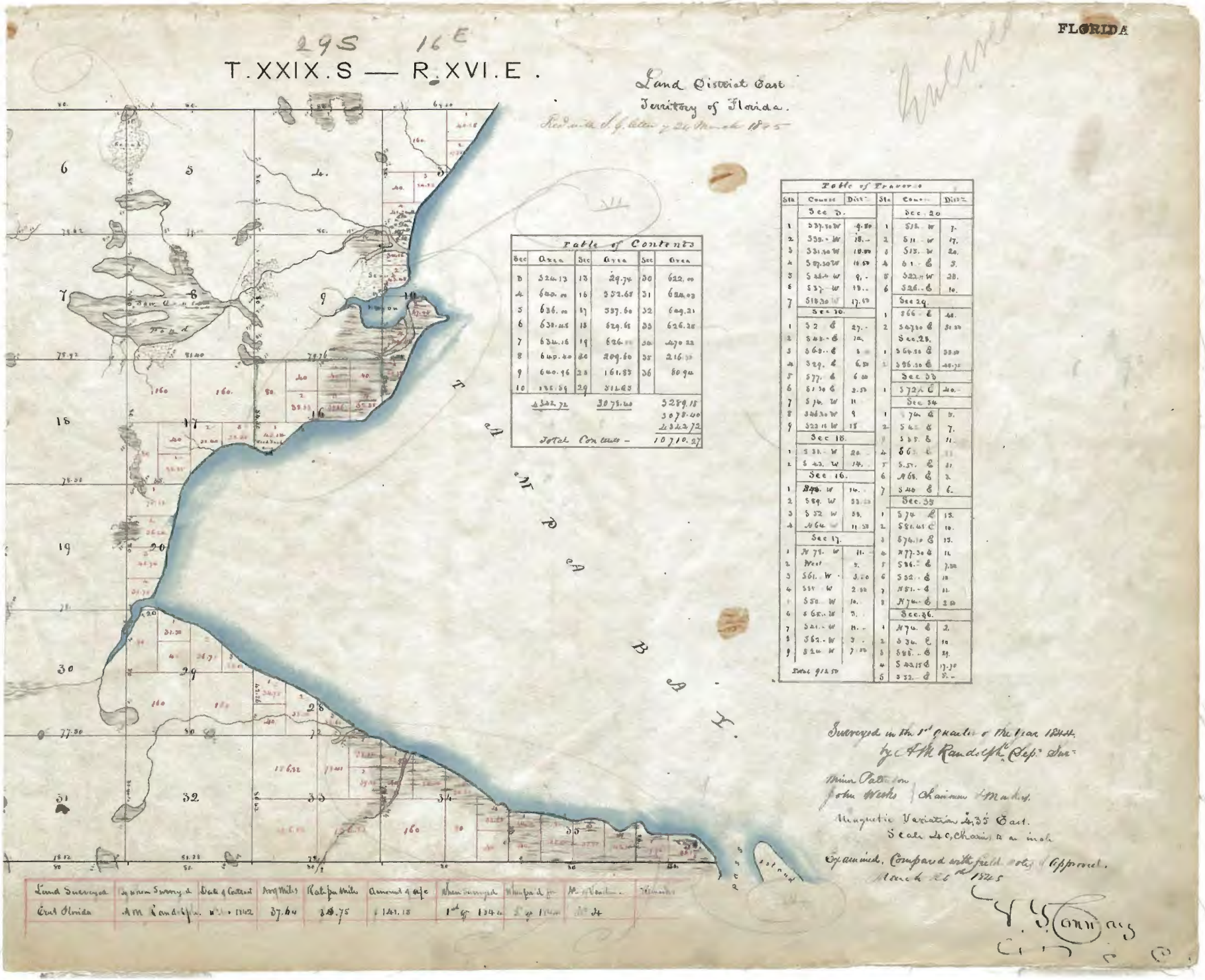
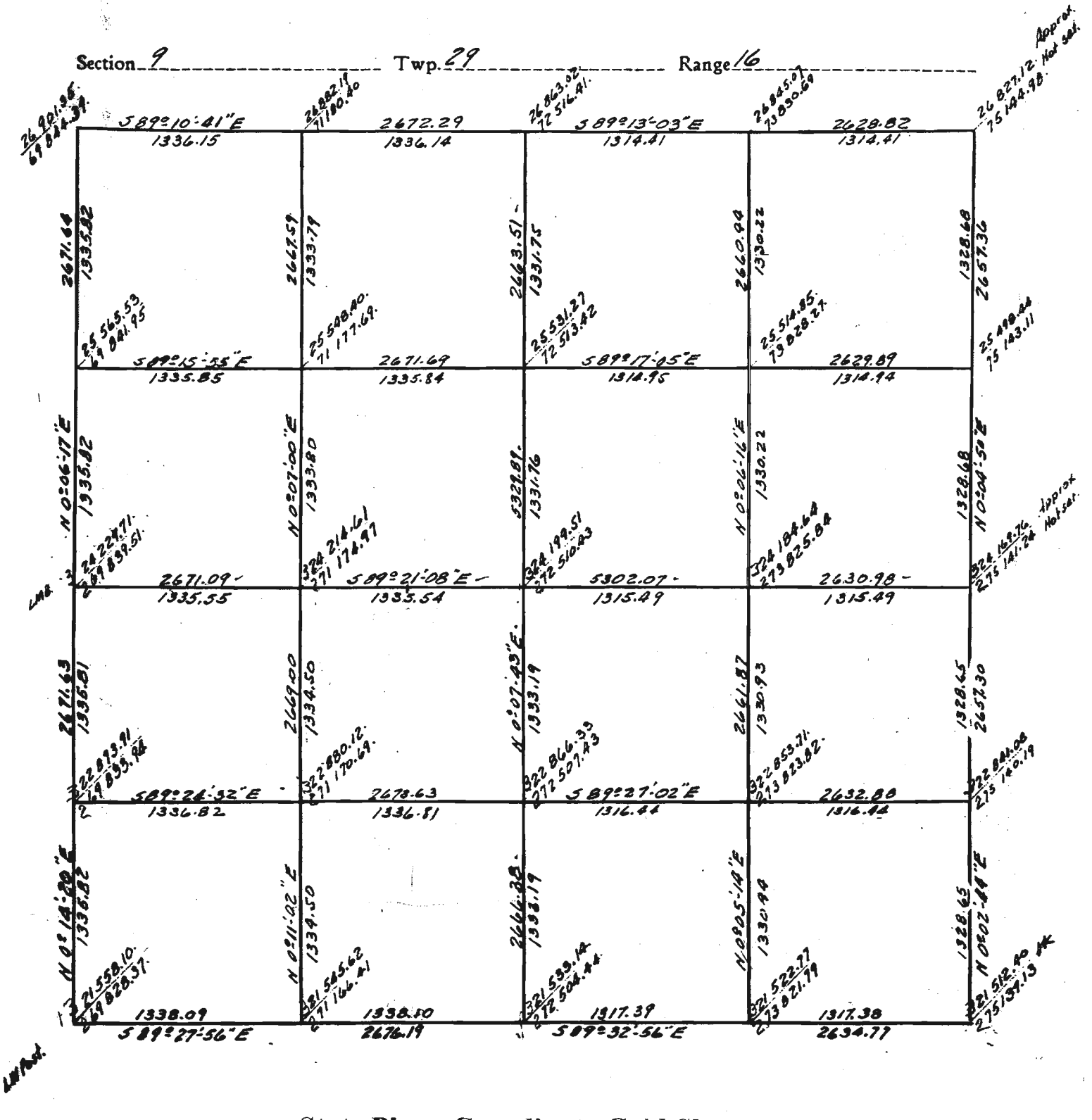


Exhibit 5.1a - Township 29 South, Range 26 East (Black & White)



May 5, 1955

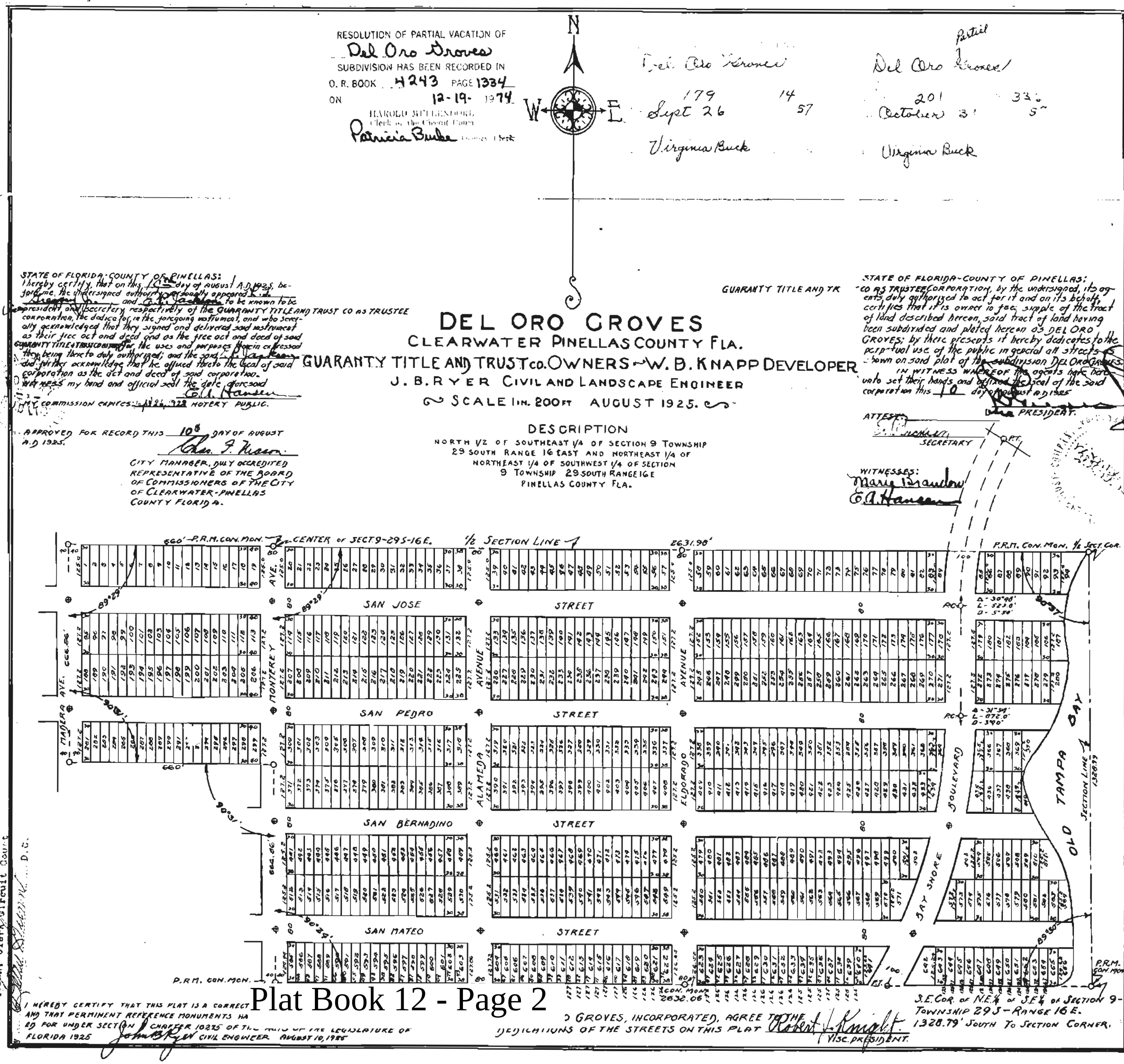


State Plane Coordinate Grid Sheet
Section 09 - 29 -16 Breakdown

Exhibit 5.2

Subdivision Plats and Condominiums

Exhibit 5.3 & 5.4



RESOLUTION OF PARTIAL VACATION OF
Del Oro Groves
SUBDIVISION HAS BEEN RECORDED IN
O. R. BOOK 4243 PAGE 1334
ON 12-19-1974
HAROLD MULLENDORE
Clerk of the Circuit Court
Patricia Burke Deputy Clerk
N
W
E
DEL ORO GROVES
CLEARWATER PINELLAS COUNTY FLA.
GUARANTY TITLE AND TRUST CO. OWNERS ~ W. B. KNAPP DEVELOPER
J. B. RYER CIVIL AND LANDSCAPE ENGINEER
SCALE 1 IN. 200 FT AUGUST 1925.
DESCRIPTION
NORTH 1/2 OF SOUTHEAST 1/4 OF SECTION 9 TOWNSHIP 29 SOUTH RANGE 16 EAST AND NORTHEAST 1/4 OF NORTHEAST 1/4 OF SOUTHWEST 1/4 OF SECTION 9 TOWNSHIP 29 SOUTH RANGE 16 E PINELLAS COUNTY FLA.
STATE OF FLORIDA - COUNTY OF PINELLAS:
APPROVED FOR RECORD THIS 10th DAY OF AUGUST A.D. 1925.
CITY MANAGER, DULY ACCREDITED REPRESENTATIVE OF THE BOARD OF COMMISSIONERS OF THE CITY OF CLEARWATER - PINELLAS COUNTY FLORIDA.
GUARANTY TITLE AND TR
STATE OF FLORIDA - COUNTY OF PINELLAS:
CO. AS TRUSTEE CORPORATION, by the undersigned, its agents duly authorized to act for it and on its behalf, certifies that it is owner in fee simple of the tract of land described hereon, said tract of land having been subdivided and platted hereon as DEL ORO GROVES; by these presents it hereby dedicates to the perpetual use of the public in general all streets as shown on said plat of the subdivision DEL ORO GROVES.
IN WITNESS WHEREOF the agents have hereunto set their hands and affixed the seal of the said corporation this 10 day of August A.D. 1925.
PRESIDENT.
ATTEST:
SECRETARY
WITNESSES:
Marie Brandow
E.A. Hansen
SAN JOSE
STREET
SAN PEDRO
SAN BERNADINO
SAN MATEO
MONTEREY
AVE.
AVENUE
ALAMEDA
ELDORADO
MADERA AVE.
BOULEVARD
BAY SHORE
OLD TAMPA BAY
SECTION LINE
1/2 SECTION LINE
CENTER OF SECT 9-29S-16E.
P.R.M. CON. MON.
S.E. COR. OF N.E. 1/4 OF S.E. 1/4 OF SECTION 9-TOWNSHIP 29S-RANGE 16 E. 1328.79' SOUTH TO SECTION CORNER.
I HEREBY CERTIFY THAT THIS PLAT IS A CORRECT ... AND THAT PERMANENT REFERENCE MONUMENTS HA... ED FOR UNDER SECTION ... CHAPTER 10275 OF THE ... OF THE LEGISLATURE OF FLORIDA 1925
CIVIL ENGINEER AUGUST 10, 1925
... GROVES, INCORPORATED, AGREE TO THE DEDICATIONS OF THE STREETS ON THIS PLAT
Robert J. Knight
VICE PRESIDENT.
FILED Aug 17 1925 AT 10:30 O'CLOCK A.M.
AND RECORDED IN THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA IN THE BOOK AND ON THE PAGES DESIGNATED ABOVE.
R. B. O'QUINN, Clerk Circuit Court
D.C.

BAYVIEW BLUFF

PINELLAS COUNTY, FLORIDA

Being a subdivision of a part of the SE ¼ of the SW ¼ of Sec. 9, Twp. 29 S, Rge. 16 E

DESCRIPTION

Begin at the SE cor. of the SW ¼ of Sec. 9, Twp. 29 S, Rge. 16 E and run thence N89°27'55"W, along the south line of said Sec. 9, 1338.10 ft., to the 40 acre line, thence N0°11'59"E, along the 40 acre line, 967.19 ft. for P.O.B., thence N0°11'59"E, along the 40 acre line, 367.19 ft. to the 40 acre line, thence S89°24'14"E, along the 40 acre line, 660.0 ft., thence S0°11'59"W 366.83 ft., thence N89°26'08"W 660.0 ft. to P.O.B.

DEDICATION

The undersigned, Argie R.Z. Wolfe and his wife Esther B. Wolfe, hereby certify that they are the owners of the above described property and that they hereby dedicate to the public in general all roads and streets as shown on this plat.

John S. Gunn — Witness

Argie R.Z. Wolfe — Argie R.Z. Wolfe

Barbara Fillmon — Witness

Esther B. Wolfe — Esther B. Wolfe

ACKNOWLEDGMENT

State of Florida
County of Pinellas

I hereby certify that on this 29th day of October 1953 A.D. before me appeared personally Argie R.Z. Wolfe and his wife Esther B. Wolfe, to me known to be the persons described in and who executed the foregoing certificate and dedication and acknowledge the execution thereof to be their own free act and deed for the uses and purposes therein expressed.

Witness my hand and official seal the date aforesaid.

My commission expires Oct. 11, 1956

H. E. Brown — Notary Public, State of Florida at large.

APPROVAL

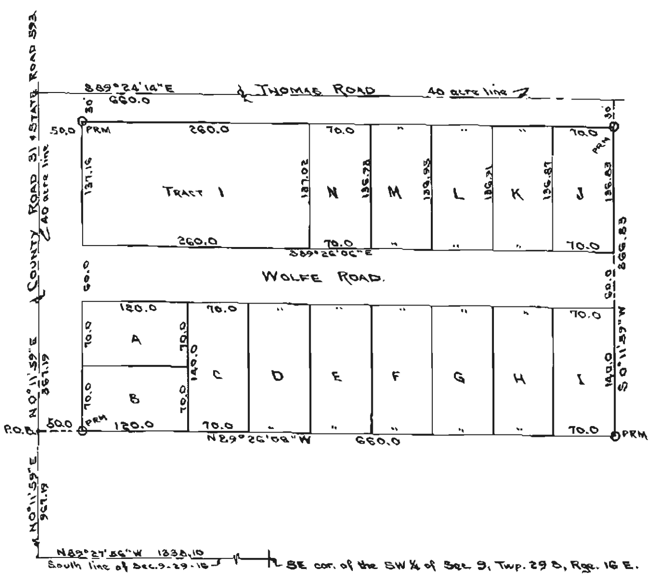
Approved by the Board of County Commissioners of Pinellas County, Florida this 5 day of ~~October~~ November 1953 A.D.

C. A. Peterson — County Engineer Reg. No. 4308

ENGINEERS CERTIFICATE

I hereby certify that on this 12th day of October 1953 A.D. this property was surveyed and staked and monuments were set as indicated and that dimensions and angles are correct.

Leo Butler — Reg. Surveyor No. 75, Reg. Engineer No. 1488



The within map or plat conforms to the requirements of Chapter 10275 Acts of 1925, and Chapter 26151 Spl. Acts of 1949, Laws of Florida, as to form, was filed for record on the 10 day of November 1953, at 9:32 o'clock A.M., and recorded in the public records of Pinellas County, Florida, in Plat Book 33, Page 53.
W. GLERKSON, Clerk Circuit Court
By — Deputy Clerk

PLAT'S 36

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Sheet 1 of 2 Sheets.

KAPOK TERRACE

PINELLAS COUNTY, FLORIDA

Being a subdivision of a part of the NW¼ of the SW¼ of Sec. 9, Twp. 29 S, Rge. 16 E.

DESCRIPTION

Begin at the NW cor. of the SW¼ of Sec. 9, Twp. 29 S, Rge. 16 E and run thence S89°20'32"E, along the east and west center-line of said Sec. 9, 1061.29 ft., thence S0°11'59"W 603.0 ft., thence S89°20'32"E 275.0 ft. to the 40 acre line, thence S0°11'57"W, along the 40 acre line, 731.38 ft. to the 40 acre line, thence N89°24'14"W, along the 40 acre line, 1337.19 ft. to the Sec. line, thence N0°14'20"E, along the Sec. line, 1338.82 ft. to P.O.B.

DEDICATION

The undersigned, Howard C. Metzger and his wife Louise M. Metzger, hereby certify that they are the owners of the above described property and that they hereby dedicate to the public in general all roads, avenues, streets and drives and all lakes and parks as shown on this plat.

John S. Gunn — Witness

Barbara E. Thomas — Witness

Howard C. Metzger — Howard C. Metzger

Louise M. Metzger — Louise M. Metzger

ACKNOWLEDGMENT

State of Florida
County of Pinellas

I hereby certify that on this 22nd day of December 1954 A.D. before me appeared personally Howard C. Metzger and his wife Louise M. Metzger, to me known to be the persons described in and who executed the foregoing certificate and dedication and acknowledge the execution thereof to be their own free act and deed for the uses and purposes therein expressed.

Witness my hand and official seal the date aforesaid.

My commission expires December 23, 1957

Benjamin F. Gilbert Jr.
Notary Public, State of Florida at large.

APPROVAL

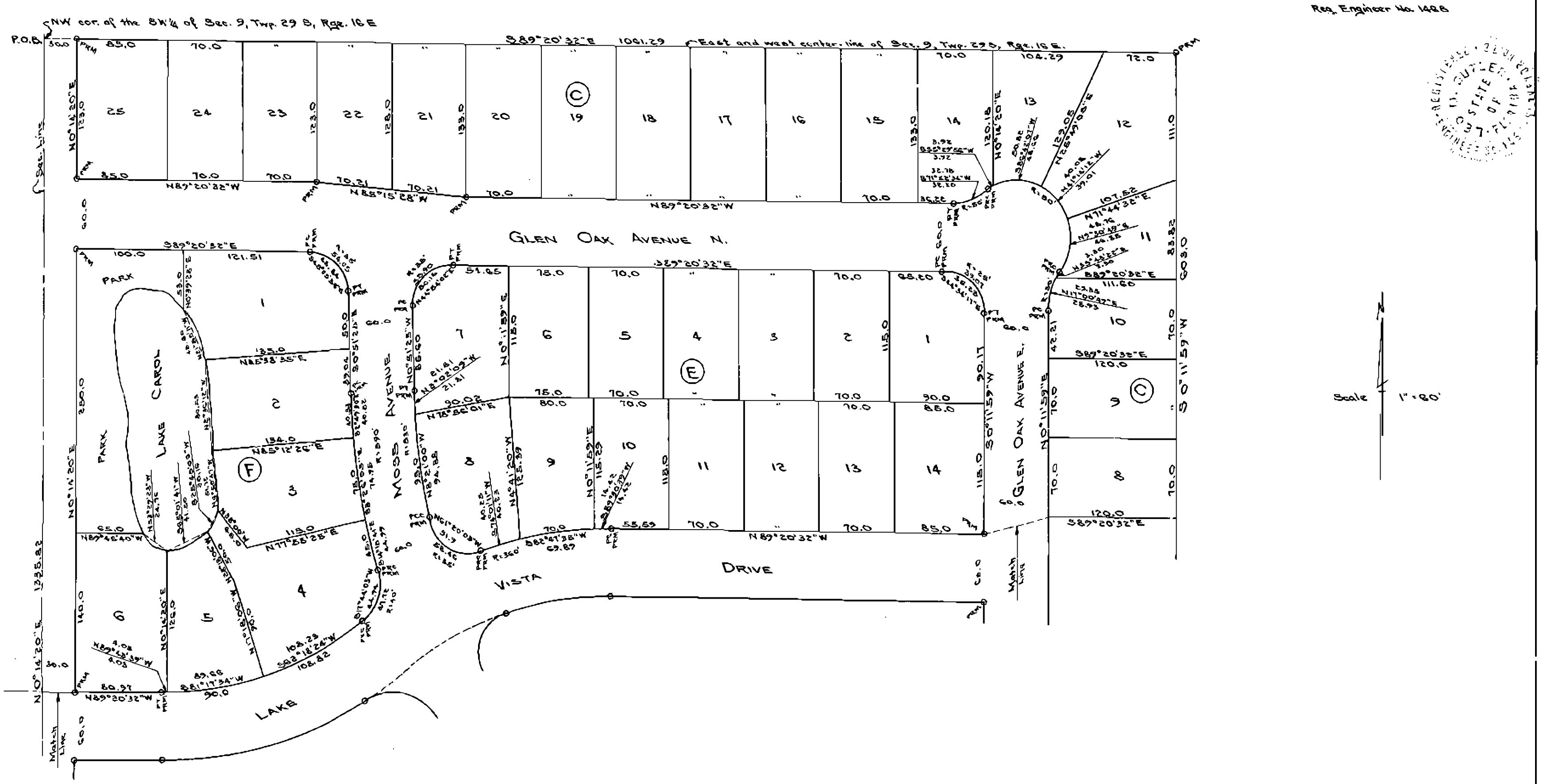
Approved by the Board of County Commissioners of Pinellas County, Florida, this 31 day of January 1955 A.D.

C. A. Peterson
County Engineer Reg. No. 4308

ENGINEERS CERTIFICATE

I hereby certify that on this 23rd day of December 1954 A.D. this property was surveyed and staked and monuments were set as indicated and that dimensions and angles are correct.

O. Butler
Reg. Surveyor No. 78
Reg. Engineer No. 1486



The within map or plat conforms to the requirements of Chapter 10275 Acts of 1925, and Chapter 26151 Sp. Acts of 1949, Laws of Florida, as to form, was filed for record on the 1st day of February 19 55, at 5 o'clock P. M., and recorded in the public records of Pinellas County, Florida, in Plat Book 36 Pages 14 & 15

[illegible] Clerk Circuit Court
By [signature] Deputy Clerk

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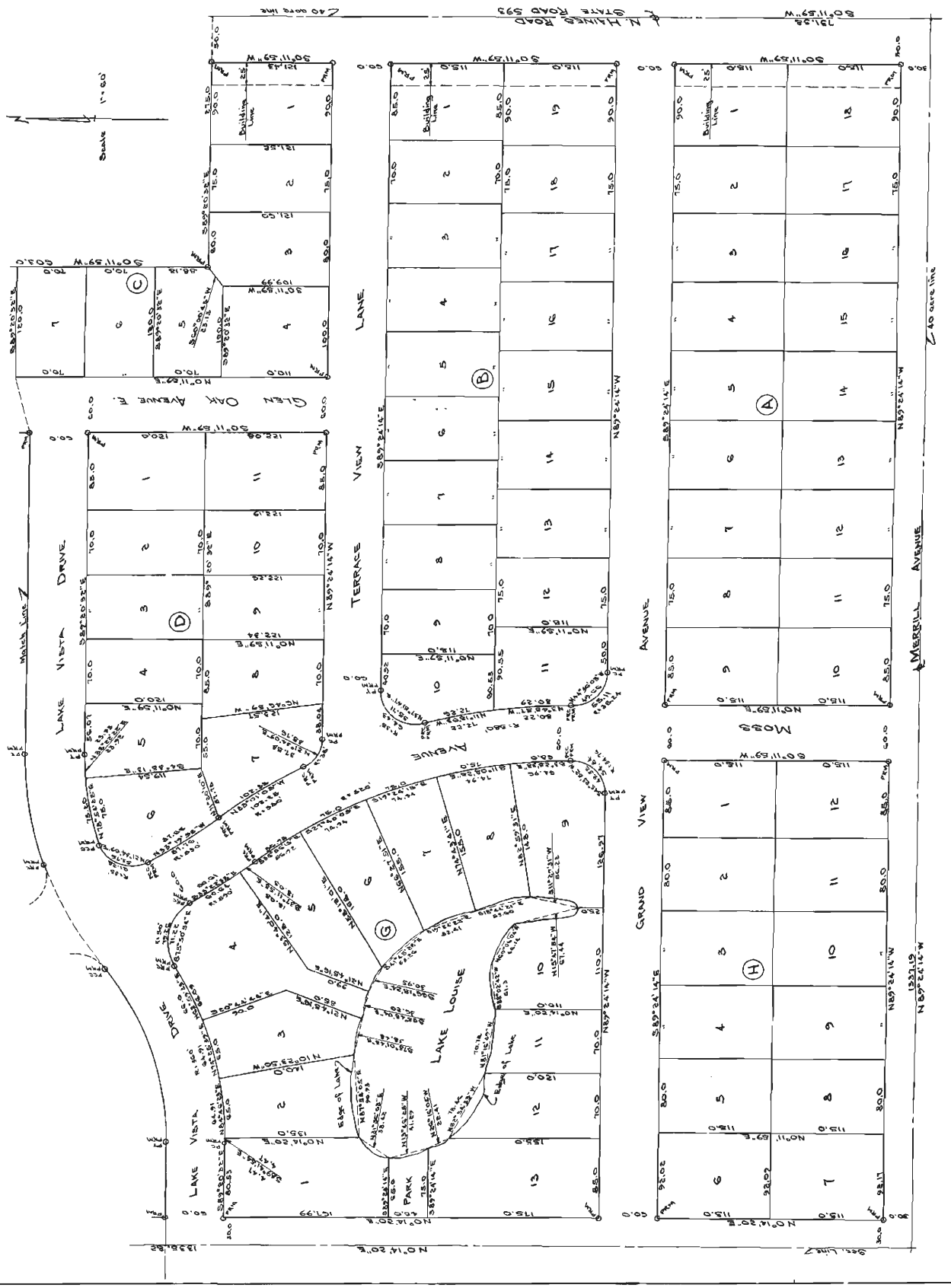
PLAT'S 36

KAPOK TERRACE

PINELLAS COUNTY, FLORIDA

Sheet 2 of 2 Sheets



PLATS 42 46

SLOAN'S ACRE

PINELLAS COUNTY, FLORIDA

Being a subdivision of part of the SW¼ of the SW¼ of Sec. 9, Twp. 29 S., Rge. 16 E.

DESCRIPTION

Begin at the NW corner of the SW¼ of the SW¼ of Section 9, Township 29 South, Range 16 East and run thence S89°24'14"E, along the 40 acre line, 182.19 feet for P.O.B.; thence continue S89°24'14"E 260.0 feet; thence S0°11'59"W, along the Westerly line of Lot 1 in Block O of Kapok Terrace First Addition, as recorded in Plat Book 49 Page 48 of the Public Records of Pinellas County, Florida, and its Northerly extension, 138.0 feet; thence N89°24'14"W, parallel to the 40 acre line, 260.0 feet; thence N0°11'59"E 138.0 feet to P.O.B.

DEDICATION

The undersigned hereby certify that they are the owners of the above described property and that besides their interests therein, there are no other outstanding interests in said property, which property is hereby platted as Sloan's Acre and that they dedicate all streets, alleys, easements and public places as shown on this plat herewith. The parties joining herein are James L. Sloan and his wife Ethelmae P. Sloan, owners

Clayton W. Lingelbach — Witness
Donna L. Lingelbach — Witness
James L. Sloan — James L. Sloan
Ethelmae P. Sloan — Ethelmae P. Sloan.

State of Florida
County of Pinellas

Before me, the undersigned authority, personally appeared James L. Sloan and his wife Ethelmae P. Sloan, owners, to be known and known to me to be the individuals executing the foregoing and acknowledged to me that they executed the same for the purposes set out therein.

Witness my hand and official seal at Pinellas County, Florida, this 4th day of September, 1967

My commission expires: Notary Public, State of Florida at Large. My Commission Expires July 18, 1969

Ethel M. Darling
Notary Public.

SURVEYOR'S CERTIFICATE

I, the undersigned Registered Land Surveyor, hereby certify that on September 1, 1967 this property was surveyed and this plat is a true representation of the lands described and shown and that permanent reference monuments (P.R.M.) have been placed as indicated hereon in accordance with the Statutes of the State of Florida thereunto appertaining.

Signature: L Butler
Leo M. Butler
Registered Land Surveyor
Florida Certificate No. 78

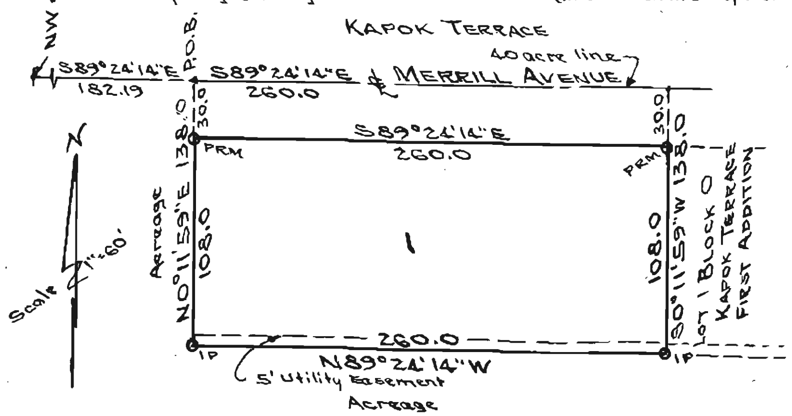
CERTIFICATE OF APPROVAL OF COUNTY COMMISSION

State of Florida
County of Pinellas

It is hereby certified that this plat has been officially approved for record by the Board of County Commissioners of the County of Pinellas, Florida this 12th day of September 1967.

Approved:

Douglas M. Carter — County Engineering
Attest: Harold Mullendore — Harold Mullendore, Clerk
George Ruppel — Chairman, Board of County Commissioners.
By: Ben D. Dixon — Deputy Clerk



CERTIFICATE OF APPROVAL OF COUNTY CLERK

State of Florida
County of Pinellas

I, Harold Mullendore, Clerk of the Circuit Court of Pinellas County, Florida, hereby certify that this plat has been examined and that it complies in form with all the requirements of the Statutes of Florida pertaining to maps and plats, and that this plat has been filed for record in Plat Book 42 Page 46, Public Records of Pinellas County, Florida, this 13 day of September 1967 at 2:30 PM

Harold Mullendore, Clerk
Pinellas County, Florida

By: Helen ... — Deputy Clerk

Plat Book 42 - Page 46

PLAT S 42 54

SUNSET VALLEY SUBDIVISION

PINELLAS COUNTY, FLORIDA

Being a subdivision of part of the SW¼ of the SW¼ of Section 9, Township 29 South, Range 16 East.

DESCRIPTION

Begin at the NW corner of the SW¼ of the SW¼ of Section 9, Township 29 South, Range 16 East and run thence S89°24'14"E, along the 40 acre line, 182.19 feet; thence S0°11'59"W 138.0 feet; thence N89°24'14"W 182.29 feet; thence N 0°14'20"E, along the Section line, 138.0 feet to the P.O.B.

DEDICATION

The undersigned hereby certify that they are the owners of the above described property and that besides their interests therein, there are no other outstanding interests in said property, which property is hereby platted as Sunset Valley Subdivision and that they dedicate all streets and easements as shown on this plat herewith. The parties joining herein are Melius L. Postage and his wife Mildred R. Postage, owners.

J. L. Lemington — Witness
Ethelmae P. Sloan — Witness
Melius L Postage — Melius L. Postage
Mildred R Postage — Mildred R. Postage

State of Florida
County of Pinellas

Before me, the undersigned authority, personally appeared Melius L. Postage and Mildred R Postage, his wife, owners, to be known and known to me to be the individuals executing the foregoing and acknowledged to me that they executed the same for the purposes set out therein.

Witness my hand and official seal at Pinellas County, Florida, this 27 day of January 1969

My commission expires. Aug. 25, 1969 — J. L. Lemington, Notary Public

SURVEYOR'S CERTIFICATE

I, the undersigned Registered Land Surveyor, hereby certify that on 23 January 1969 this property was surveyed and this plat is a true representation of the lands described and shown, and that permanent reference monuments (P.R.M.) have been placed as indicated hereon, in accordance with the Statutes of the State of Florida thereunto appertaining.

L Butler
Leo M. Butler
Registered Land Surveyor
Florida Certificate No. 78

69011982

CERTIFICATE OF APPROVAL OF COUNTY COMMISSION

State of Florida
County of Pinellas

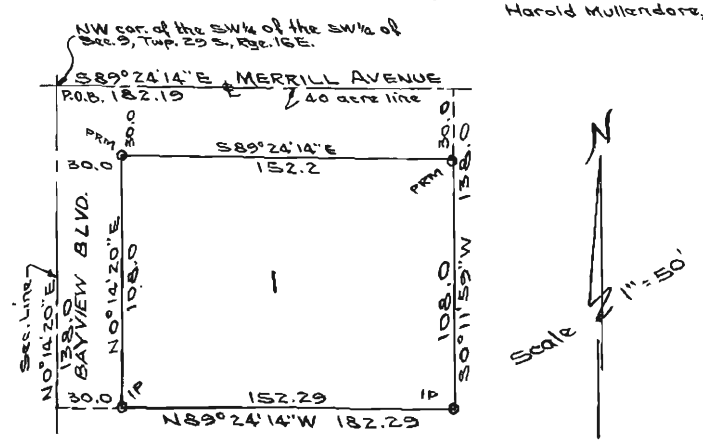
It is hereby certified that this plat has been officially approved for record by the Board of County Commissioners of the County of Pinellas, Florida this 4TH day of FEBRUARY 1969

Approved:
Douglas M. Carter
County Engineering

Chairman, Board of County Commissioners

Attest
Harold Mullendore, Clerk

By: Ben J. Davis
Deputy Clerk



CERTIFICATE OF APPROVAL OF COUNTY CLERK

State of Florida
County of Pinellas

I, Harold Mullendore, Clerk of the Circuit Court of Pinellas County, Florida, hereby certify that this plat has been examined and that it complies in form with all the requirements of the Statutes of Florida pertaining to maps and plats, and that this plat has been filed for record in Plat Book 42 Page 54 of the Public Records of Pinellas County, Florida, this 5 day of February 1969 at 10 A.M.

Harold Mullendore, Clerk
Pinellas County, Florida.

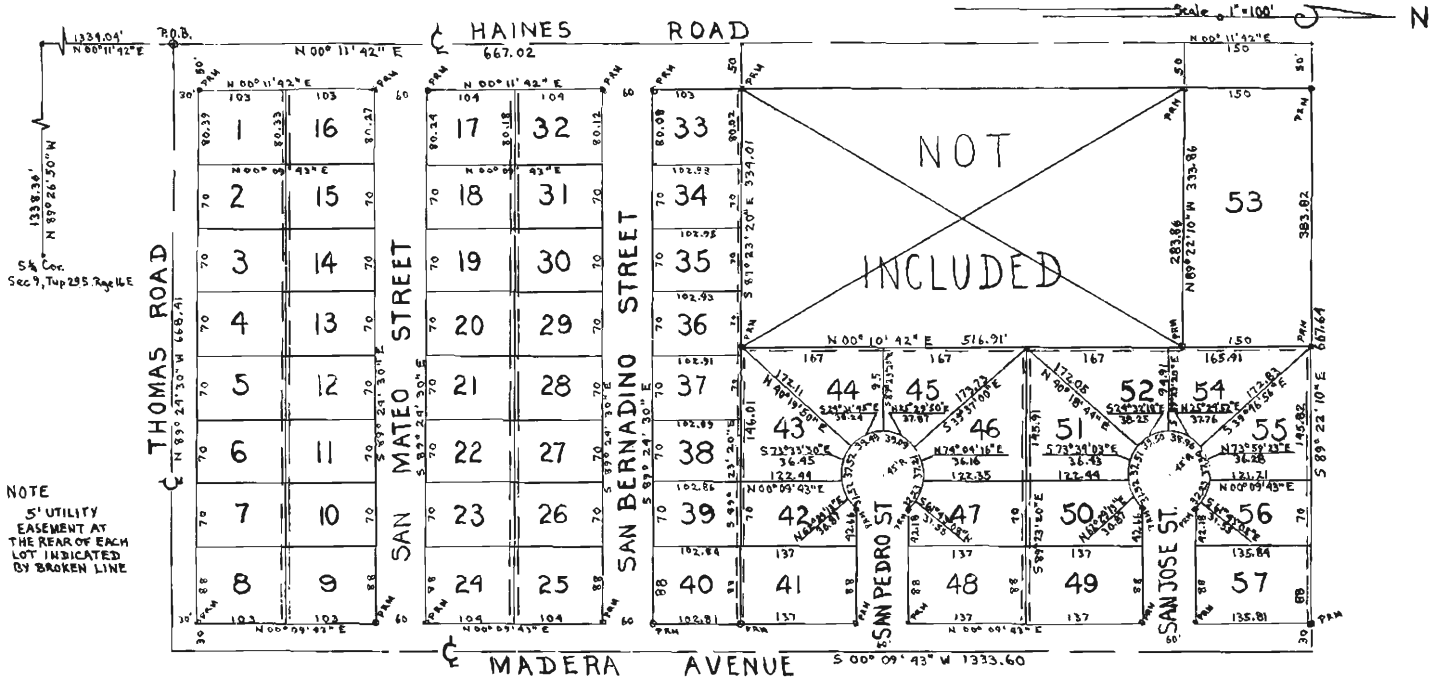
By: Helen Rhew
Deputy Clerk

Plat Book 42 - Page 54
Plat Book 42 - Page 54

PLAT'S 45 74

DEL ORO GARDENS

Being a Subdivision of the SW ¼ of NE ¼ of SW ¼, and the E. ½ of NW ¼ of NE ¼ of SW ¼, and the North 150' of W ½ of NW ¼ of NE ¼ of SW ¼, all in Section 9, Township 29 S., Range 16 E., PINELLAS COUNTY, FLORIDA



NOTE
5' UTILITY EASEMENT AT THE REAR OF EACH LOT INDICATED BY BROKEN LINE

DESCRIPTION

From the S ¼ Cor. Sec 9, Twp 29 S, Rge 16 E, run N89°26'50"W along the Sec line 1338.36 feet to a 40 acre Cor., thence N00°11'42"E along the 40 acre line 1334.04 feet for Point of Beginning, thence continue N 00°11'42" E along the 40 acre line 667.02 feet to a 10 acre Cor, thence S89°23'20"E along the 10 acre line 339.01 Feet, thence N00°10'42"E 516.91 feet, thence N89°22'10"W 333.86 feet thence N00°11'42"E 150.00 feet to the E-W Mid line said Sec 9, thence S89°22'10"E along the mid. Sec. line 667.64 feet to a 10 acre Cor, thence S00°09'43"W along the 10 acre line 1333.60 feet to a 40 acre Cor, thence N89°24'30"W along the 40 acre line to the Point Of Beginning

DEDICATION

The undersigned:
Harold E. Bernier and Beverly I. Bernier his wife, Fred T. Menges and Evelyn M. Menges his wife, and Thomas J. Walker and Frances E. Walker his wife, hereby certify that they are the owners of the above described property and that they hereby dedicate to the Public all streets and avenues as shown on this plat.

Owen L. Allerton III — WITNESS
Harold E. Bernier — Harold E. Bernier
Beverly I. Bernier — Beverly I. Bernier
Blanche M. Wilkes — WITNESS
Fred T. Menges — Fred T. Menges
Evelyn M. Menges — Evelyn M. Menges
Thomas J. Walker — Thomas J. Walker
Frances E. Walker — Frances E. Walker

ACKNOWLEDGMENT

STATE OF FLORIDA, COUNTY OF PINELLAS.

I hereby certify that on this 6th day of JUNE 1957 A.D. Before me personally appeared, Harold E. Bernier and Beverly I. Bernier his wife, and Fred T. Menges and Evelyn M. Menges his wife, and Thomas J. Walker and Frances E. WALKER his wife, To me known to be the persons described in and who executed the foregoing Certificate and Dedication and acknowledge the execution thereof to be their own free act and deed for the purposes therein expressed.

Witness my hand and official seal the date aforesaid

Notary Public, State of Florida at Large
My Commission Expires July 30, 1960

My commission expires 7/30/60

Owen L. Allerton III
Notary Public

SURVEYORS CERTIFICATE:

I hereby certify that on this 1st day of August, A.D. 1957 this property was surveyed and staked and monuments were set as indicated and that dimensions and angles are correct.

A. L. Pfau
A.L.Pfau Jr. Reg. Florida Land Surveyor 39

APPROVAL:

Zoning approved by the Planning & Zoning Dept., Pinellas County, Florida, this 2nd day of Aug. A.D. 1957

Dewey F. Morris
Dewey Morris, Director of Zoning

APPROVAL:

Approved by the Board of County Commissioners of Pinellas County, Florida, this 17th. day of Sept. A.D. 1957

L. O. Hester
L.O. Hester, County Engineer

The within map or plat conforms to the requirements of Chapter 10275 Acts of 1925, and Chapter 26151 Spl. Acts of 1949, Laws of Fla., as to form, was filed for record on the 13th day of Sept. A.D. 19 57, at 12:05 o'clock P.M. and recorded in P.B. 45 of Pinellas County, Florida, in Plat Book 45 on Page 74

AVERY W. GILKERSON, Clerk Circuit Court
By Dan J. McCarty Deputy Clerk

Plat Book 45 - Page 74

DEL ORO ESTATES

CLEARWATER, PINELLAS COUNTY, FLORIDA

Being a replat of Lots 1-19 inclusive, Lots 98-113 inclusive, Lots 188-206 inclusive, and Lots 281-299 inclusive in Del Oro Groves as recorded in Plat Book 12, Page 2 of the Public Records of Pinellas County, Florida. Also adjacent lands to the south in Section 9, Township 29 South, Range 16 East.

DESCRIPTION

From the center of Section 9, Twp. 29 S, Rge. 16 E run thence S 89° 22' 10" E, 0.61 ft. along the East and West center line of said Section 9 to the center line of Monterey Avenue of Del Oro Groves as recorded in Plat Book 12, Page 2 of the Public Records of Pinellas County, Florida; thence S 0° 10' 45" W, 1333.15 ft. along the center line of Monterey Avenue; thence N 89° 24' 30" W, 667.76 ft. along the 40 Acre line; thence N 0° 09' 45" E, 1333.60 ft. along the 20 Acre line; thence S 89° 22' 10" E, 668.17 ft. along the said East and West center line to P.O.B.

DEDICATION

The undersigned, James E. McDaniel, his wife Julia E. McDaniel; Elmer Gramm, his wife, Lois; Forest Dean, his wife, Willadene C. Dean; and N.L. Kirkland Jr., his wife, Margaret Kirkland hereby certify that they are the owners of the above described property and that they hereby dedicate to the public in general all avenues and streets as shown on this plat.

James E. McDaniel — Elmer Gramm — Forest Dean — N.L. Kirkland Jr.

Julia E. McDaniel — Lois Gramm — Willadene C. Dean — Margaret Kirkland

Barbara E. Thomas, Witness — Witness

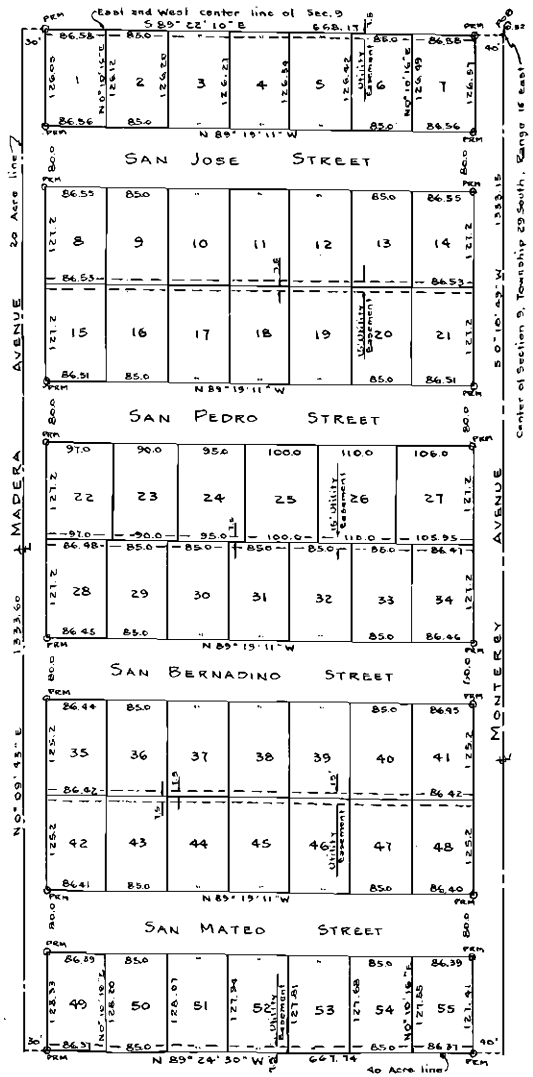
ACKNOWLEDGMENT

State of Florida
County of Pinellas

I hereby certify that on this 27th day of July 1957 A.D. before me appeared personally James E. McDaniel, his wife Julia E. McDaniel; Elmer Gramm, his wife Lois Gramm; Forest Dean, his wife Willadene C. Dean; and N.L. Kirkland Jr., his wife, Margaret Kirkland to me known to be the persons described in and who executed the foregoing certificate and dedication and acknowledge the execution thereof to be their own free act and deed for the uses and purposes therein expressed.

Witness my hand and official seal the date aforesaid.

Benjamin F. Gilbert Jr.
Notary Public, State of Florida, at Large.
My commission expires 28 December 1957



N

Scale 1" = 100'

APPROVAL

Approved by the Board of County Commissioners of Pinellas County, Florida this 25th. day of Sept, 1957 A.D.

County Engineer

ENGINEERS CERTIFICATE

I hereby certify that on this 17th day of July 1957 A.D. this property was surveyed and staked and monuments were set as indicated and that angles and dimensions are correct.

Reg. Surveyor No. 18
Reg. Engineer No. 1968

APPROVAL

Approved by the Board of City Commissioners of Clearwater, Pinellas County, Florida this 7th day of SEPT. 1957 A.D.

City Manager

APPROVAL OF MORTGAGEE

The above plat is hereby approved for filing.

Robert J. Knight Jr., Mortgagee

Marguerite W. Knight, Mortgagee

The within map or plat conforms to the requirements of Chapter 10275 Acts of 1925 and Chapter 28151 Spl. Acts of 1949, Laws of Florida, as to form, and was received on the 27th day of Sept. A.D. 1957 at 2:30 o'clock P.M. and recorded in Plat Book 46 of Public Records of Pinellas County, Florida, in Plat Book 46 page 29

AVERY W. WILLIAMS, Clerk Circuit Court
By Elsie M. McCarthy Deputy Clerk

PLATS 49 48

KAPOK TERRACE FIRST ADDITION

PINELLAS COUNTY, FLORIDA

Being a subdivision of part of the SW¼ of the SW¼ of Section 9, Twp. 29 S, Rge. 16 E.

DESCRIPTION

From the NW cor. of the SW¼ of Sec. 9, Twp 29 S, Rge. 16 E run S0°14'20"W, along the Sec. line, 1335.82 ft. to the 40 acre line, thence S89°24'14"E, along the 40 acre line, 442.19 ft. for P.O.B., thence S89°24'14"E, along the 40 acre line, 895.0 ft. to the 40 acre line, thence S0°11'57"W, along the 40 acre line, 414.0 ft., thence N89°24'14"W 895.0 ft., thence N0°11'57"E 414.0 ft. to P.O.B.

DEDICATION

The undersigned Howard C. Metzger and his wife Louise M. Metzger, hereby certify that they are the owners of the above described property and that they hereby dedicate to the public in general all avenues, roads and streets as shown on this plat.

Luther J. Cribbs Jr. — Witness
[signature] — Witness
Howard C. Metzger — Howard C. Metzger
Louise M. Metzger — Louise M. Metzger

ACKNOWLEDGMENT

State of Florida
County of Pinellas

I hereby certify that on this 26th day of March 1958 A.D. before me appeared personally Howard C. Metzger and his wife Louise M. Metzger, to me known to be the persons described in and who executed the foregoing certificate and dedication and acknowledge the execution thereof to be their own free act and deed for the uses and purposes therein expressed.

Witness my hand and official seal the date aforesaid

Benjamin F. Gilbert Jr.
Notary Public, State of Florida at large.
My commission expires 28 December 1961

APPROVAL

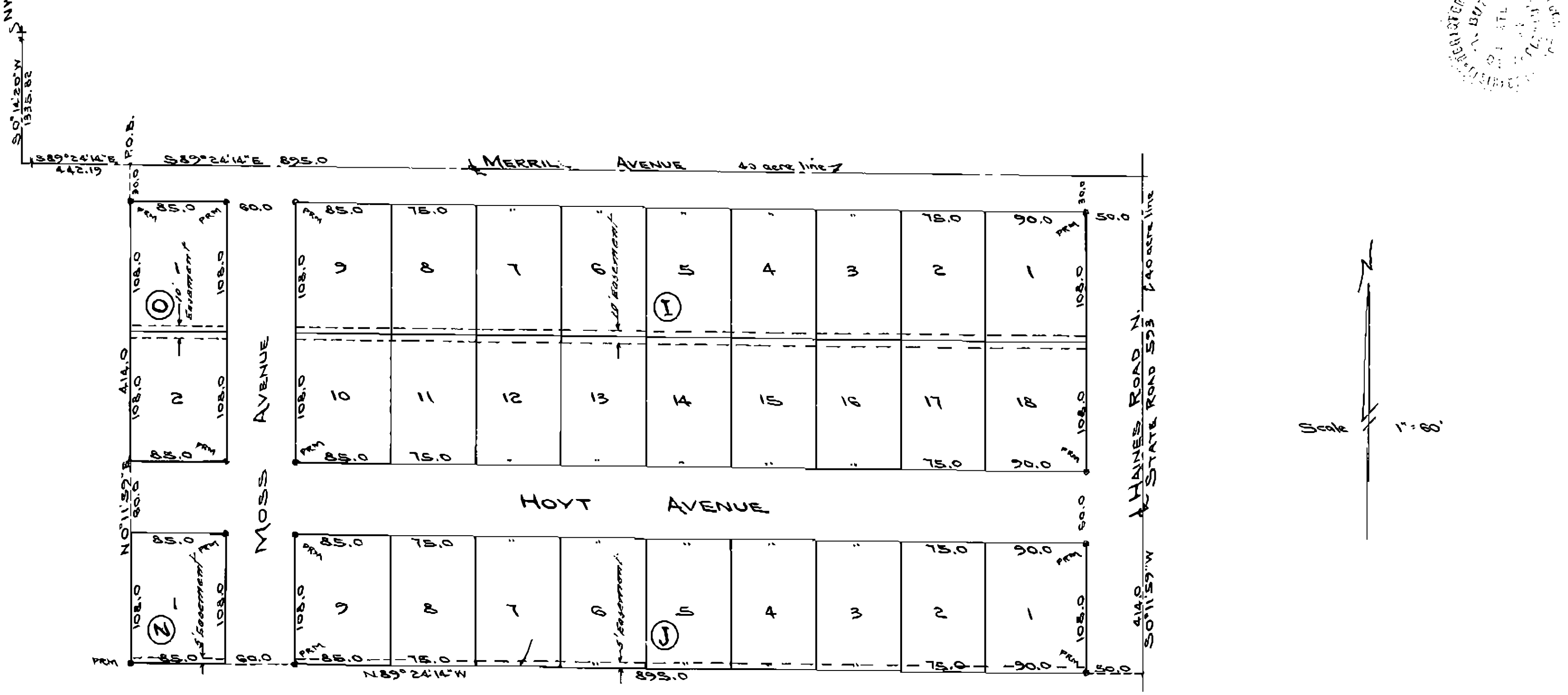
Approved by the Board of County Commissioners of Pinellas County, Florida this 9th day of June, 1958 A.D.

[signature]
County Engineer

ENGINEERS CERTIFICATE

I hereby certify that on this 24th day of March 1958 A.D. this property was surveyed and staked and monuments were set as indicated and that angles and dimensions are correct.

Leo Butler
Reg. Surveyor No. 78
Reg. Engineer No. 1468



Plat Book 49 - Page 48

4732720

The within map or plat conforms to the requirements of Chapter 10275 and Chapter 25151 Spl. Acts of 1951 ... Florida, and was filed for record on the 9th day of June 1958, at 3:30 o'clock P.M. and recorded in the public records of Pinellas County, Florida in Plat Book 49 Page 48.
AVERY W. GILKERSON, Clerk Circuit Court
By Dan J. McCarthy Deputy Clerk

Bordeaux Estates
5910 1527
1-8-85
Patricia Burke

BORDEAUX ESTATES

BEING A SUBDIVISION OF A PART OF THE SOUTH 1/2 OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST
CLEARWATER, PINELLAS COUNTY, FLORIDA

LEGAL DESCRIPTION:

A PART OF THE SOUTH HALF (S.½) OF THE SOUTHEAST QUARTER (SE.¼) OF THE SOUTHWEST QUARTER (SW.¼) OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER (SW.¼) OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA; RUN THENCE N00°07'28"E, 50.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF DREW STREET (STATE ROAD No. 590, COUNTY ROAD No. 108) FOR A POINT OF BEGINNING; THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, N89°27'56"W, 1288.60 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF McMULLEN BOOTH ROAD (STATE ROAD No. 593, COUNTY ROAD No. 31); THENCE ALONG SAID EASTERLY RIGHT-OF-WAY LINE, N00°11'08"E, 617.35 FEET; THENCE S89°26'48"E, 857.94 FEET; THENCE S17°44'57"E, 210.00 FEET; THENCE S80°26'26"E, 330.00 FEET; THENCE S89°58'32"E, 40.00 FEET; THENCE S00°07'28"W, 366.18 FEET TO THE POINT OF BEGINNING.

CURVE DATA				
SYMBOL	RADIUS	CHORD	CHORD BEARING	ARC
(1)	50.00'	66.86'	N51°03'47"E	73.86'
(2)	50.00'	55.29'	S55°23'48"E	58.58'
(3)	50.00'	33.96'	S03°00'40"W	34.65'
(4)	50.00'	35.28'	S43°30'37"W	36.05'
(5)	50.00'	22.88'	S78°21'38"W	23.08'
(6)	10.00'	14.10'	S44°37'58"E	15.66'
(7)	10.00'	14.19'	N45°22'08"E	15.76'

DEDICATION:

THE UNDERSIGNED HEREBY CERTIFY THAT THEY ARE THE OWNERS OF THE ABOVE DESCRIBED PROPERTY, AND THAT BESIDES THEIR INTRESTS THEREIN, THERE ARE NO OTHER OUTSTANDING INTRESTS IN SAID PROPERTY, WHICH PROPERTY IS HEREBY PLATTED AS "BORDEAUX ESTATES", AND THAT THEY DEDICATE ALL STREETS, EASEMENTS, PARKS AND PUBLIC PLACES AS SHOWN ON THIS PLAT, TO THE USE OF THE PUBLIC IN GENERAL. THE PARTIES JOINING HEREIN ARE:

Carl Tilly — CARL TILLY, PRESIDENT — Edward C. Elliott, WITNESS
Jill E. Tilly — JILL E. TILLY, SECRETARY, TREASURER — John F. Herrick, WITNESS

MORTGAGEE CERTIFICATE:

FIRST FEDERAL SAVINGS AND LOAN ASSOCIATION OF CLEARWATER HEREBY CONSENTS TO AND JOINS IN THE RECORDING OF THIS PLAT AND THE DEDICATIONS SHOWN HEREON.

James E. Philips — JAMES E. PHILIPS, SENIOR VICE PRESIDENT — WITNESS; Bruce M. Smith, WITNESS

ACKNOWLEDGMENT:

STATE OF FLORIDA } S.S.
COUNTY OF PINELLAS }
BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED CARL TILLY, AND JILL E. TILLY, PRESIDENT AND SECRETARY TREASURER RESPECTIVELY, OF CARL TILLY, INC. TO ME KNOWN TO BE THE INDIVIDUALS EXECUTING THE FOREGOING DEDICATION AS OWNERS OF THE ABOVE DESCRIBED LANDS, AND THEY ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES SET OUT THEREIN.

WITNESS MY HAND AND OFFICIAL SEAL AT PINELLAS COUNTY, FLORIDA, THIS 5th DAY OF April, A.D. 1978.

MY COMMISSION EXPIRES Oct. 25, 1981 — Norma Jean Herrick, NOTARY PUBLIC, STATE OF FLORIDA AT LARGE

ACKNOWLEDGMENT FOR MORTGAGEE CERTIFICATE:

STATE OF FLORIDA } S.S.
COUNTY OF PINELLAS }
BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED JAMES E. PHILIPS, SENIOR VICE PRESIDENT OF FIRST FEDERAL SAVINGS AND LOAN ASSOCIATION OF CLEARWATER, AS MORTGAGEE, TO ME KNOWN TO BE THE INDIVIDUAL EXECUTING THE FOREGOING AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES SET OUT THEREIN.

WITNESS MY HAND AND OFFICIAL SEAL AT PINELLAS COUNTY, FLORIDA THIS 5th DAY OF April, A.D. 1978.

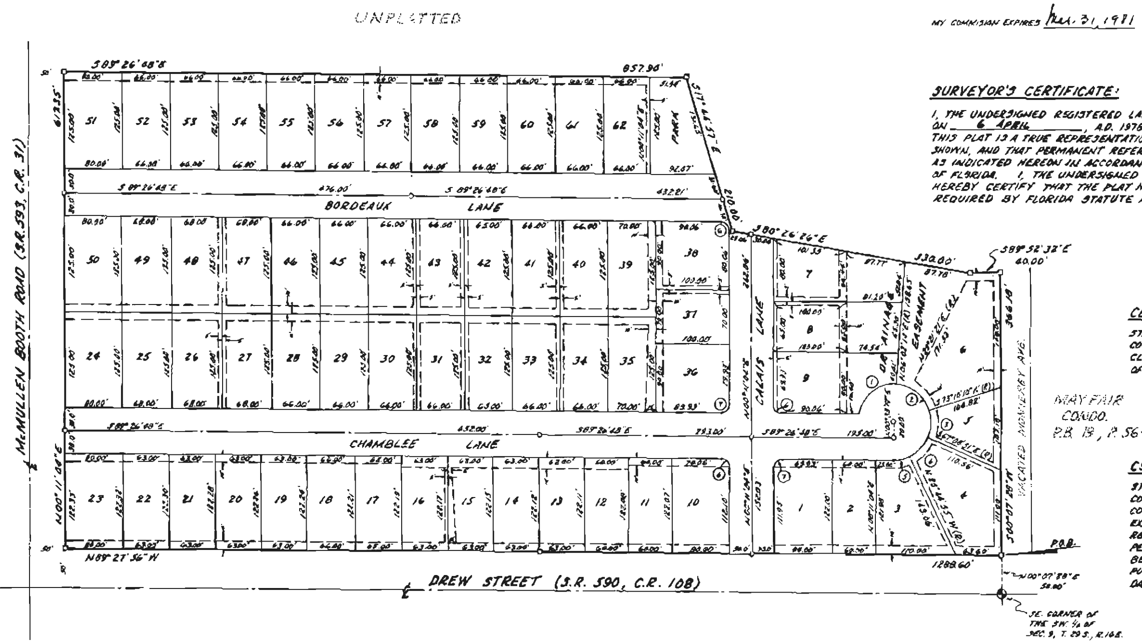
MY COMMISSION EXPIRES Mar. 31, 1981 — Judy Geissler, NOTARY PUBLIC, STATE OF FLORIDA AT LARGE

JUDY GEISSLER NOTARY PUBLIC STATE OF FLORIDA AT LARGE

SURVEYOR'S CERTIFICATE:

I, THE UNDERSIGNED REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT ON 6 APRIL, A.D. 1978, THIS PROPERTY WAS SURVEYED AND THIS PLAT IS A TRUE REPRESENTATION OF THE LANDS DESCRIBED AND SHOWN, AND THAT PERMANENT REFERENCE MONUMENTS HAVE BEEN PLACED AS INDICATED HEREON IN ACCORDANCE WITH THE STATUTES OF THE STATE OF FLORIDA. I, THE UNDERSIGNED REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT THE PLAT MEETS ALL MATERIAL IN COMPOSITION REQUIRED BY FLORIDA STATUTE No 177.091.

George A. Shimp II
GEORGE A. SHIMP II
FLORIDA REGISTERED LAND SURVEYOR # 2512



CERTIFICATE OF APPROVAL OF CITY COMMISSION:

STATE OF FLORIDA } S.S.
COUNTY OF PINELLAS }
APPROVED BY THE BOARD OF CITY COMMISSIONERS OF THE CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA THIS 9TH DAY OF DECEMBER, A.D. 1976.

Anthony L. Shoemaker
ANTHONY L. SHOEMAKER, CITY MANAGER

CERTIFICATE OF APPROVAL OF COUNTY CLERK:

STATE OF FLORIDA } S.S.
COUNTY OF PINELLAS }
I, HAROLD MULLENDORE, CLERK OF THE CIRCUIT COURT OF PINELLAS COUNTY, FLORIDA, HEREBY CERTIFY THAT THIS PLAT HAS BEEN EXAMINED AND THAT IT COMPLIES IN FORM WITH ALL THE REQUIREMENTS OF THE STATUTES OF THE STATE OF FLORIDA PERTAINING TO MAPS AND PLATS, AND THAT THIS PLAT HAS BEEN FILED FOR RECORD IN PLAT BOOK 78, PAGE 25, OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA THIS 1ST DAY OF JUNE, A.D. 1978. @ 11:00 A.M.

HAROLD MULLENDORE, CLERK
PINELLAS COUNTY, FLORIDA

BY: Tina Bergeest
DEPUTY CLERK

SURVEYOR'S NOTES:
- DENOTES PERMANENT REFERENCE MONUMENT
- DENOTES PERMANENT CONTROL POINT
- DENOTES DRAINAGE AND/OR UTILITY EASEMENT 5.0 FEET EACH SIDE OF LOT LINE UNLESS OTHERWISE NOTED.

ALL FRONT AND REAR EASEMENTS ARE FOR DRAINAGE AND/OR UTILITIES.
THERE SHALL BE NO VEHICULAR ACCESS TO DREW STREET FROM LOTS 1-4 AND 10-23.

GRAPHIC SCALE 1" = 100'

Bordeaux Estates
7917 1838
5/22 92
Joanne Boland, CLERK

Bordeaux Estates
5158 252
3-6-81
Patricia Burke, Deputy Clerk

Bordeaux Estates
7915 2834
5-21 92
Joanne Boland

Plat Book 78 - Page 25

PLATS 92 85249988 62

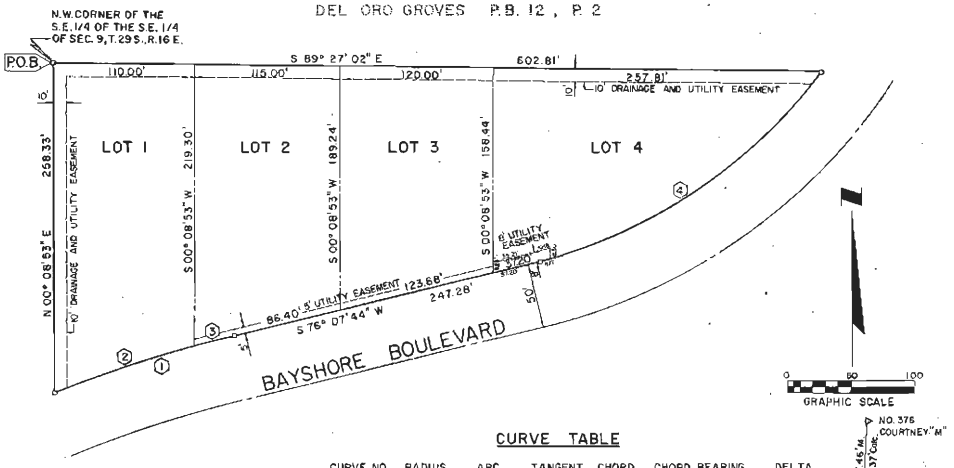
DEL ORO PLACE

SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST
CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA

LEGAL DESCRIPTION

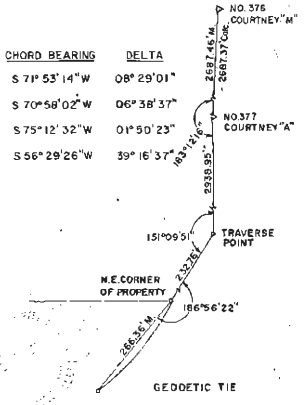
A PARCEL OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGIN AT THE NORTHWEST CORNER OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 9; THENCE SOUTH 89° 27' 02" EAST, ALONG THE SOUTHERLY BOUNDARY OF DEL ORO GROVES SUBDIVISION, AS RECORDED IN PLAT BOOK 12, PAGE 2, PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA, 602.81 FEET TO THE ARC OF A NON-TANGENT CURVE OF THE NORTHWESTERLY RIGHT-OF-WAY OF BAYSHORE BOULEVARD (COUNTY ROAD NO. 30 (A 100 FOOT RIGHT-OF-WAY); THENCE ALONG SAID RIGHT-OF-WAY, ALONG THE ARC OF A CURVE TO THE RIGHT, CONCAVE NORTHWESTERLY, RADIUS 396.27 FEET, DELTA ANGLE 39° 16' 37", ARC 271.65 FEET, CHORD BEARING SOUTH 56° 29' 26" WEST, 266.36 FEET TO A POINT OF TANGENCY; THENCE SOUTH 76° 07' 44" WEST, 247.28 FEET TO A POINT OF CURVE; THENCE ALONG THE ARC OF A CURVE TO THE LEFT, CONCAVE SOUTHEASTERLY, RADIUS 1004.91 FEET, DELTA ANGLE 08° 29' 01", ARC 148.79 FEET, CHORD BEARING SOUTH 71° 53' 14" WEST, 148.66 FEET TO THE WESTERLY BOUNDARY OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 9; THENCE NORTH 00° 08' 53" EAST, ALONG SAID BOUNDARY 258.33 FEET TO THE POINT OF BEGINNING.

CONTAINING 2.23 ACRES, MORE OR LESS.



CURVE TABLE

CURVE NO.	RADIUS	ARC	TANGENT	CHORD	CHORD BEARING	DELTA
①	1004.91'	148.79'	74.53'	148.66'	S 71° 53' 14" W	08° 29' 01"
②	1004.91'	116.52'	58.33'	116.46'	S 70° 58' 02" W	06° 38' 37"
③	1004.91'	32.27'	16.14'	32.27'	S 75° 12' 32" W	01° 50' 23"
④	396.27'	271.65'	141.41'	266.36'	S 56° 29' 26" W	39° 16' 37"



CERTIFICATE OF APPROVAL OF COUNTY CLERK

STATE OF FLORIDA } S.S.
COUNTY OF PINELLAS }

I, KARLEEN F. DeBLAKER, CLERK OF THE CIRCUIT COURT OF PINELLAS COUNTY, FLORIDA, HEREBY CERTIFY THAT THIS PLAT HAS BEEN EXAMINED AND THAT IT COMPLIES IN FORM WITH ALL THE REQUIREMENTS OF THE STATE OF FLORIDA PERTAINING TO MAPS AND PLATS, AND THAT THIS PLAT HAS BEEN FILED FOR RECORD IN PLAT BOOK 92, PAGE 62, PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA, THIS 26 DAY OF November, 1985 A.D., AT 4:45 PM

ATTEST: KARLEEN F. DeBLAKER, CLERK — BY: Gladys E. Hayes, DEPUTY CLERK

DEDICATION

THE UNDERSIGNED CERTIFIES THAT HE IS THE OWNER OF THE ABOVE DESCRIBED PROPERTY, WHICH IS HEREBY PLATTED AS DEL ORO PLACE, AND THAT HE DEDICATES ALL EASEMENTS AS SHOWN TO THE PUBLIC.

OWNER:

DANIEL A. ENGELHARDT — WITNESS — WITNESS

ACKNOWLEDGEMENT

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED DANIEL A. ENGELHARDT AS OWNER OF THE ABOVE DESCRIBED PROPERTY, TO ME WELL KNOWN AND KNOWN TO ME TO BE THE INDIVIDUAL EXECUTING THE FORGOING, AND ACKNOWLEDGED TO ME THAT HE EXECUTED SAME FOR THE PURPOSES THEREIN EXPRESSED.

WITNESS MY HAND AND SEAL AT PINELLAS COUNTY, FLORIDA THIS 28th DAY OF May, 1985 A.D.
NOTARY PUBLIC, STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES THE 29th DAY OF February, 1988 A.D.

NOTARY PUBLIC

SURVEYOR'S CERTIFICATE

I, THE UNDERSIGNED REGISTERED LAND SURVEYOR, HEREBY CERTIFY, THAT ON APRIL 30, 1985 A.D., THIS PROPERTY WAS SURVEYED AND THIS IS A TRUE REPRESENTATION OF THE LANDS DESCRIBED AND SHOWN AND THAT PERMANENT REFERENCE MONUMENTS HAVE BEEN PLACED AS INDICATED HEREON IN ACCORDANCE WITH THE STATUTES OF THE STATE OF FLORIDA THERE UNTO APPERTAINING. I FURTHER CERTIFY THAT THE PLAT MEETS ALL MATERIAL IN COMPOSITION REQUIRED BY FLORIDA STATUTE NO. 177.091.

RONALD L. HUGHES, P.L.S. 3747

CERTIFICATE OF APPROVAL OF CITY COMMISSION

APPROVED BY THE BOARD OF CITY COMMISSIONERS OF THE CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA, THIS 16th DAY OF May, 1985 A.D.

BY: CITY MANAGER

RESTRICTIONS

ONLY ONE (1) DRIVEWAY ENTRANCE PER LOT PERMITTED.

Prepared by: CARTER PLUMLEY ENGINEERS, INC.

Plat Book 92 - Page 62

PLATS 109 49

INST # 93-204877
JLY 19, 1993 3:42PM

BAYVIEW BLUFF TRACT NO. 1

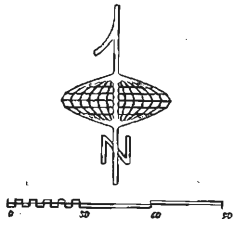
A REPLAT OF TRACT 1, BAYVIEW BLUFF
BEING A PART OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST
CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA

LEGAL DESCRIPTION

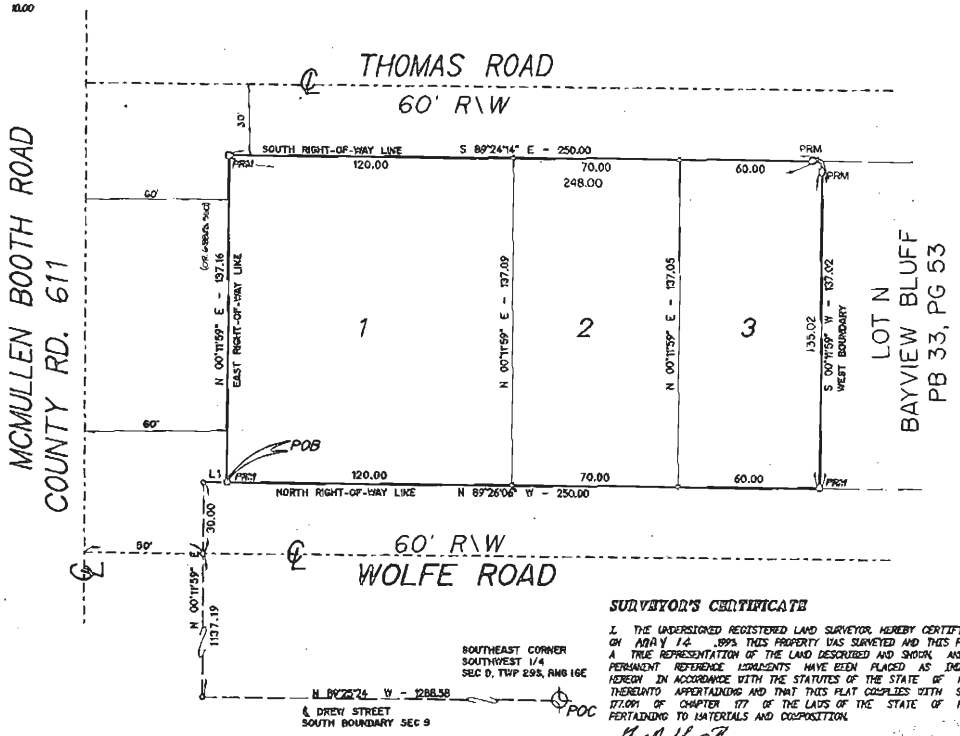
A REPLAT OF TRACT 1, BAYVIEW BLUFF, AS RECORDED IN PLAT BOOK 33, PAGE 53, AS RECORDED IN THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA, BEING A PARCEL OF LAND LYING IN THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA AND RUN N89°25'24"W ALONG THE CENTERLINE OF DREW STREET ALSO BEING THE SOUTHERLY BOUNDARY OF SAID SECTION 9, 1,288.58 FEET TO A POINT LYING ON THE INTERSECTION OF THE CENTERLINE OF DREW STREET AND A LINE LYING 30.00 FEET EAST OF AND PARALLEL TO THE CENTERLINE OF MCMULLEN BOOTH ROAD, THENCE N00°11'59"E, 1,137.19 FEET ALONG SAID PARALLEL LINE TO A POINT LYING ON THE INTERSECTION OF THE CENTERLINE OF WOLFE ROAD AND SAID PARALLEL LINE, THENCE CONTINUE N00°11'59"E, 30.00 FEET, THENCE S89°26'08"E 10.00 FEET TO A POINT LYING ON THE INTERSECTION OF THE EAST RIGHT OF WAY MCMULLEN BOOTH ROAD AND THE NORTH RIGHT OF WAY OF WOLFE ROAD, ALSO BEING THE POINT OF BEGINNING, THENCE RUN N00°11'59"E, 137.18 FEET ALONG THE EAST RIGHT OF WAY OF MCMULLEN BOOTH ROAD TO A POINT LYING ON THE SOUTH RIGHT OF WAY OF THOMAS ROAD, THENCE S89°24'14"E, 250.00 FEET ALONG SAID SOUTH RIGHT OF WAY TO THE WEST BOUNDARY OF LOT N OF SAID BAYVIEW BLUFF, THENCE S00°11'59"W, 137.02 FEET ALONG SAID WEST BOUNDARY LINE OF LOT N TO THE NORTH RIGHT OF WAY OF WOLFE ROAD, THENCE N89°26'08"W, 250.00 FEET ALONG SAID NORTH RIGHT OF WAY TO THE POINT OF BEGINNING.

CONTAINING 34272.5000 SQ. FT. OR 0.7868 ACRES MORE OR LESS.



LINE	BEARING	DISTANCE
L1	S 89°26'08" E	10.00



NOTICE - THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT RECORDED ON THIS PLAT THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
- PRM DENOTES PERMANENT REFERANCE MONUMENT
- POC DENOTES POINT OF COMMENCEMENT
- POB DENOTES POINT OF BEGINNING

SURVEYOR'S CERTIFICATE

I, THE UNDERSIGNED REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT ON MAY 14, 1993 THIS PROPERTY WAS SURVEYED AND THIS PLAT IS A TRUE REPRESENTATION OF THE LAND DESCRIBED AND SHOWN, AND THAT PERMANENT REFERENCE MONUMENTS HAVE BEEN PLACED AS INDICATED HEREON IN ACCORDANCE WITH THE STATUTES OF THE STATE OF FLORIDA THERETO APPERTAINING AND THAT THIS PLAT COMPLIES WITH SECTION 177.091 OF CHAPTER 177 OF THE LAWS OF THE STATE OF FLORIDA PERTAINING TO MATERIALS AND COMPOSITION.

GEORGE A. SMITH II
REGISTERED LAND SURVEYOR #2512

PREPARED BY:
GEORGE A. SMITH II AND ASSOCIATES, INC.
3671 U.S. ALT 19 NORTH, SUITE D
PALM HARBOR, FLORIDA 33563
PHONE: (813) 784-5496 784-6626

CERTIFICATE OF APPROVAL OF THE CITY COMMISSION

IT IS HEREBY CERTIFIED THAT THIS PLAT HAS BEEN OFFICIALLY APPROVED FOR RECORD BY THE BOARD OF CITY COMMISSIONERS OF THE CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA, THIS 12TH DAY OF December, 1991

MICHEAL WRIGHT
CITY MANAGER
CITY OF CLEARWATER

CERTIFICATE OF APPROVAL OF THE COUNTY CLERK

STATE OF FLORIDA }
SS
COUNTY OF PINELLAS }

I, KARLEEN F. DeBLAKER, CLERK OF CIRCUIT COURT OF PINELLAS COUNTY, FLORIDA, HEREBY CERTIFY THAT THIS PLAT HAS BEEN EXAMINED AND THAT IT COMPLIES IN FORM WITH ALL THE REQUIREMENTS OF THE STATUTES OF FLORIDA PERTAINING TO MAPS AND PLATS, AND THAT THIS PLAT HAS BEEN FILED FOR RECORD IN PLAT BOOK 109, PAGE 49, PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA, THIS 19TH DAY OF July, 1993 A.D. @ 3:42 PM

KARLEEN F. DeBLAKER, CLERK
PINELLAS COUNTY, FLORIDA
BY: Suzanne MacMurchy
DEPUTY CLERK
SUZANNE MacMurchy

DEDICATION

THE UNDERSIGNED HEREBY CERTIFY THAT THEY ARE THE OWNERS OF THE ABOVE DESCRIBED PROPERTY AND THAT BESIDES THEIR INTERESTS THEREIN, THERE ARE NO OTHER OUTSTANDING INTERESTS IN SAID PROPERTY, WHICH PROPERTY IS HEREBY PLATTED AS "BAYVIEW BLUFF TRACT NO. 1".

OWNER: DONALD L. & BETTY L. MYRICK – LOT 1
LARRY E. & SANDRA G. SIMS – LOT 2
STEPHEN L. ALLEN – LOT 3

Donald L. Myrick
DONALD L. MYRICK

Betty L. Myrick
BETTY L. MYRICK

Larry E. Sims
LARRY E. SIMS

Sandra G. Sims
SANDRA G. SIMS

Stephen L. Allen
STEPHEN L. ALLEN

Donald S. Wilson
WITNESS
Mary Ellen Wilson
WITNESS

Donald S. Wilson
WITNESS
Mary Ellen Wilson
WITNESS

Donald S. Wilson
WITNESS
Mary Ellen Wilson
WITNESS

Donald S. Wilson
WITNESS
Mary Ellen Wilson
WITNESS

Donald S. Wilson
WITNESS
Mary Ellen Wilson
WITNESS

ACKNOWLEDGEMENT

STATE OF FLORIDA }
SS.
COUNTY OF PINELLAS }

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED (OWNER) DONALD L. & BETTY L. MYRICK, (OWNER) LARRY E. & SANDRA G. SIMS, AND (OWNER) STEPHEN L. ALLEN, TO BE KNOWN AND KNOWN TO ME TO BE THE INDIVIDUAL EXECUTING THE FOREGOING AND ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSE SET OUT THEREIN.

WITNESS MY HAND AND OFFICIAL SEAL THIS 14 DAY OF JULY, 1993.

MY COMMISSION EXPIRES:
Mary Ellen Wilson
NOTARY PUBLIC
STATE OF FLORIDA AT LARGE

Plat Book 109 - Page 49

DECLARATION OF CONDOMINIUM
IS RECORDED IN
O. R. BOOK 4824 PAGE 781154

CONDOMINIUM
Book# 32 Page# 112

HARBOUR TOWNE A CONDOMINIUM

BEING A PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST.

CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA.

LEGAL DESCRIPTION - HARBOUR TOWNE A CONDOMINIUM

A replat of MAYFAIR NO. ONE A CONDOMINIUM, as recorded in Condominium Book 19 Pages 56 thru 65, inclusive, Public Records of Pinellas County, Florida. Being a portion of the SW 1/4 of the SE 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, being further described as: Commence at the Southwest corner of the SE 1/4 of Section 9, Township 29 South, Range 16 East; N.00°07'43"E., along the North-South centerline of said Section 9, 50.00 feet; to a Point of Beginning; thence N.00°07'43"E., along said North-South centerline 365.89 feet; thence S.89°32'56"E., 40.00 feet to the Easterly right-of-way line of Monterey Avenue; thence N.00°07'43"E., 502.96 feet along said Easterly right-of-way; thence S.69°52'17"E., 267.43 feet; thence S.89° 52'17"E., 170.00 feet; thence N.51°39'44"E., 206.58 feet; thence N.69°46'56"E., 247.50 feet; thence N.05°26'10"E., 100.55 feet; thence S.89°27'02"E., 64.67 feet; thence S.01°53'23"E., 120.97 feet; thence N.73°15'10"E., 114.93 feet; thence S.25°12'47"E., 111.63 feet to a Point of Intersection with the Northwesterly right-of-way line of Bayshore Boulevard; thence along said line on a curve to the right, radius 1,369.94 feet; arc 55.84 feet, chord 55.84 feet, chord bearing S.65°56'47"W., to the end of said curve; thence S.67°07'21"W., 29.80 feet to the PC of a curve; thence along a curve to the right, radius 1,382.39 feet, arc 119.43 feet, chord 119.39 feet, chord bearing S.69°35'51"W., to the end of said curve; thence S.72°04'21"W., 121.60 feet to the PC of a curve; thence along a curve to the left, radius 322.83 feet, arc 283.22 feet, chord 274.23 feet, chord bearing S.46°56'21"W., to the end of said curve; thence S.21°48'21"W., 580.17 feet to the PC of a curve; thence along a curve to the right, radius 268.31 feet, arc 73.73 feet, chord 73.50 feet, chord bearing S.29°40'42"W., to a point, said point being on the Northerly right-of-way line of Drew Street; thence along said right-of-way line, N.89°32' 56"W., 334.82 feet to the Point of Beginning.
Containing 10.90 acres, more or less.

Subject to a Florida Power Corporation blanket easement (the easement area shall extend 5 feet on each side of the centerline of the facilities as located and constructed) recorded as Clerk's Instrument No. 72028444, O.R. Book 3737 Pages 88, 89, and 90, Public Records of Pinellas County, Florida.
Subject to a resolution vacating a portion of right-of-way of Monterey Boulevard excepting that the City of Clearwater retains a 20-foot easement lying 10-feet each side of the centerline of said described real property for maintenance and installation of any or all public utilities and for access as recorded in Clerks Instrument No. 77035711, O.R. Book 4519 Pages 945 and 946, Public Records of Pinellas County, Florida.

Subject to a non-exclusive easement for access, ingress and egress, the installation and maintenance of sewer lines and other utility services over and across the following described parcels hereby reserved to TRECO, its successors and assigns:
Parcel A - Commencing at the Southwest corner of the SE 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, run N.00°07'43"E., 415.89 feet; thence S.89°52'32"E., 40.00 feet; thence N.00°07'43"E., 502.96 feet; thence S.69°52'17"E., 267.43 feet; thence S.89°52'17"E., 127.98 feet for a Point of Beginning; thence continue S.89°52'17"E., 30.75 feet; thence S.12°46'39"E., 72.74 feet; thence S.68°36'29"E., 98.35 feet; thence S.21°23'31"E., 5.00 feet; thence S.68°36'29"E., 58.72 feet; thence 41.87 feet along the arc of a curve concave to the East, radius 177.55 feet, chord S.75°53'48"W., 40.35 feet; thence S.68°36'29"W., 51.48 feet; thence S.21°23'31"E., 5.00 feet; thence N.68°36'29"W., 137.25 feet; thence S.12°46'39"W., 95.51 feet to the Point of Beginning.
AND
Parcel B - Commencing at the Southeast corner of the SE 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, run N.00°07'43"E., 415.89 feet; thence S.89°52'32"E., 40.00 feet; thence N.00°07'43"E., [illegible] feet; thence S.69°52'17"E., 267.43 feet; thence S.89°52'17"E., 170.00 feet; thence N.51°39'44"E., 206.58 feet; thence N.69°46'56"E., 247.50 feet; thence N.05°26'10"E., 75.48 feet for a Point of Beginning; thence continue N.05°26'10"E., 30.11 feet; thence S.89°27'02"E., 64.67 feet; thence S.01°53'23"E., 30.12 feet; thence N.89°27'02"W., [illegible] feet to the Point of Beginning.

DEDICATION:

TRECO, formerly the Barnett Mortgage Trust an unincorporated business trust created under the laws of the State of Florida, is the Owner of the land hereby platted and has caused the land described in the legal description hereon to be surveyed and platted as HARBOUR TOWNE A CONDOMINIUM and does hereby make the following dedication:

A. Ingress and Egress - Subject to the rights of TRECO its successors and assigns, all right-of-ways or areas for ingress and egress as shown hereon are reserved for the common use of the unit owners and the Harbour Towne Condominium Association, Inc. and shall be the perpetual maintenance obligation of said association.

B. Common Elements - Subject to the rights of TRECO it successors and assigns, all common elements and all improvements located thereon as shown on this plat are reserved for the common use of the unit owners of the Harbour Towne Condominium Association, Inc. and shall be the perpetual maintenance obligation of said association.

TRECO, formerly the Barnett Mortgage Trust is an unincorporated business trust created under the laws of the State of Florida by a Declaration of Trust dated as of March 4, 1970, as amended, a copy of which together with all amendments thereto are on file with the Secretary of State of the State of Florida. As provided in the Declaration of Trust the name "TRECO" refers to the Trustees under the Declaration of Trust as such Trustees and not as individuals or personally, and no Trustee, shareholder, or officer, employee, or agent of the Trust shall be held to any personal liability hereunder nor shall resort be had to their private property for the satisfaction of any claim hereunder, or in connection with the affairs of the Trust, but only the Trust Estate shall be bound.

IN WITNESS WHEREOF, TRECO has caused these presents to be duly executed and its seal to be affixed by its authorized officers on March 5, 1979.

Signed, Sealed and Delivered in the presence of:

TRECO

By: W. Frost Weaver

Its: Executive Vice President

STATE OF FLORIDA)
COUNTY OF DUVAL)

The foregoing instrument was acknowledged before me this 5th day of March, 1979, by W. FROST WEAVER as EXEC. VICE PRESIDENT of TRECO, on behalf of the Trust

My Commission expires: Feb. 19, 1982

Notary Public, State of Florida

SURVEYOR'S CERTIFICATE:

I, C. FRED DEUEL, the undersigned Registered Land Surveyor, hereby certify that on Jan 29, 1979 this property was surveyed under my responsible direction and supervision and that the construction of the improvements is substantially complete so that the material, description and plan of the condominium property, set out hereon, together with the provisions of the declaration describing the condominium property, is an accurate representation of the location and dimensions of the improvements, and that identification, location, and dimensions of the common elements and of each unit can be determined from these materials. This plat is a true and correct representation of the lands surveyed and the permanent reference monuments (PRM's) have been placed as indicated hereon in accordance with the Statutes of the State of Florida thereunto pertaining. I hereby certify that the material and composition of this plat conforms to the requirements of Chapter 177 of the Florida Statutes.

Florida Engineer's Reg. No. 3896
Florida Surveyor's Reg. No. 3227

SHEET 1 OF 4

C. Fred Deuel and Associates, Inc.

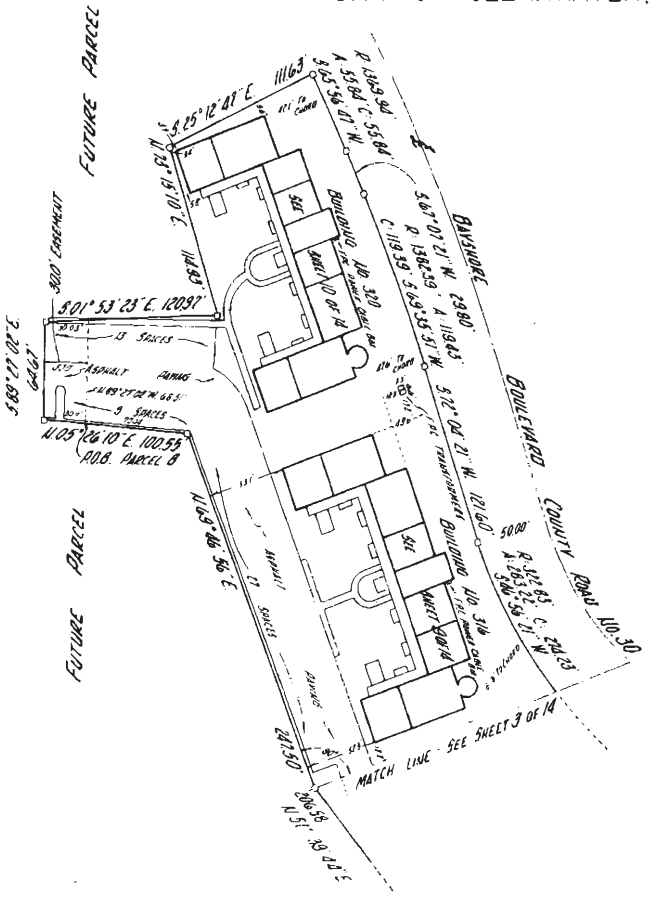
The within map or plat conforms to the requirements of Chapter 711, Florida Statutes, as to form, was filed for record on the 9th day of March, 19 79 at 2:43 o'clock P.M. and recorded in the public records of Pinellas County, Florida, in Condominium Plat Book 32 Pages 112 thru 125 inc.
HAROLD MULLENDORE
Clerk Circuit Court
By: [illegible] Deputy Clerk

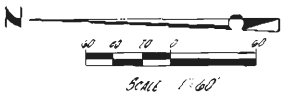
CONDOMINIUM
Book# 32 Page# 113

HARBOUR TOWNE A CONDOMINIUM

BEING A PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST

CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA.





MORTGAGEE'S CONSENT TO DEDICATION

STATE OF NEW YORK }
COUNTY OF NEW YORK

The undersigned hereby certifies that it is the holder of the mortgages, liens or other encumbrances upon the hereon described property and does hereby join in and consent to the dedication of the lands described hereon by the owner thereof and agrees that its mortgages, liens or other encumbrances which are dated March 31, 1978 and recorded in Official Record Book 4679 Page 1438 and Official Record Book 4679 Page 1464, of the Public Records of Pinellas County, Florida, shall be subordinate to this plat and the dedication shown hereon.

Signed, Sealed and Delivered in the presence of:
Kevin R. Hackett
Pamela McQuade

CHASE MANHATTAN BANK (National Association), as Lead Bank under the Pledge and Security Agreement dated as of March 31, 1978.

By: Karl C. Panthen
Duly authorized officer

Attest: Robert Quinn
Duly authorized officer

STATE OF NEW YORK }
COUNTY OF NEW YORK

The foregoing instrument was acknowledged before me this 5th day of MARCH, 1979, by KARL C. PANTHEN the VICE PRESIDENT and ROBERT QUINN the SECOND VICE PRESIDENT of the Chase Manhattan Bank a National Banking Association, on behalf of the Bank.

My commission expires: 3/30/80
Notary Public, State of New York

NOTES:

1. Common Elements - All areas except individual units and limited common elements as depicted on Sheets 4 thru 11.
2. Unless otherwise indicated all buildings are two story concrete block and are used for residential purposes.
3. Common walls between units are 8-inches and are common elements.
4. For apartment interior measurements of each type of unit see Sheets 12, 13, and 14, entitled "Typical Unit Floor Plans".
5. Mean Sea Level datum used.
6. All asphalt paving is for parking and is for ingress and egress.
7. Permanent Reference Monuments (PRM's) are indicated thus: ■

C. Fred Deuel and Associates, Inc.

SHEET 2 OF 14

Condominium Book 32 - Page 113

HARBOUR TOWNE A CONDOMINIUM

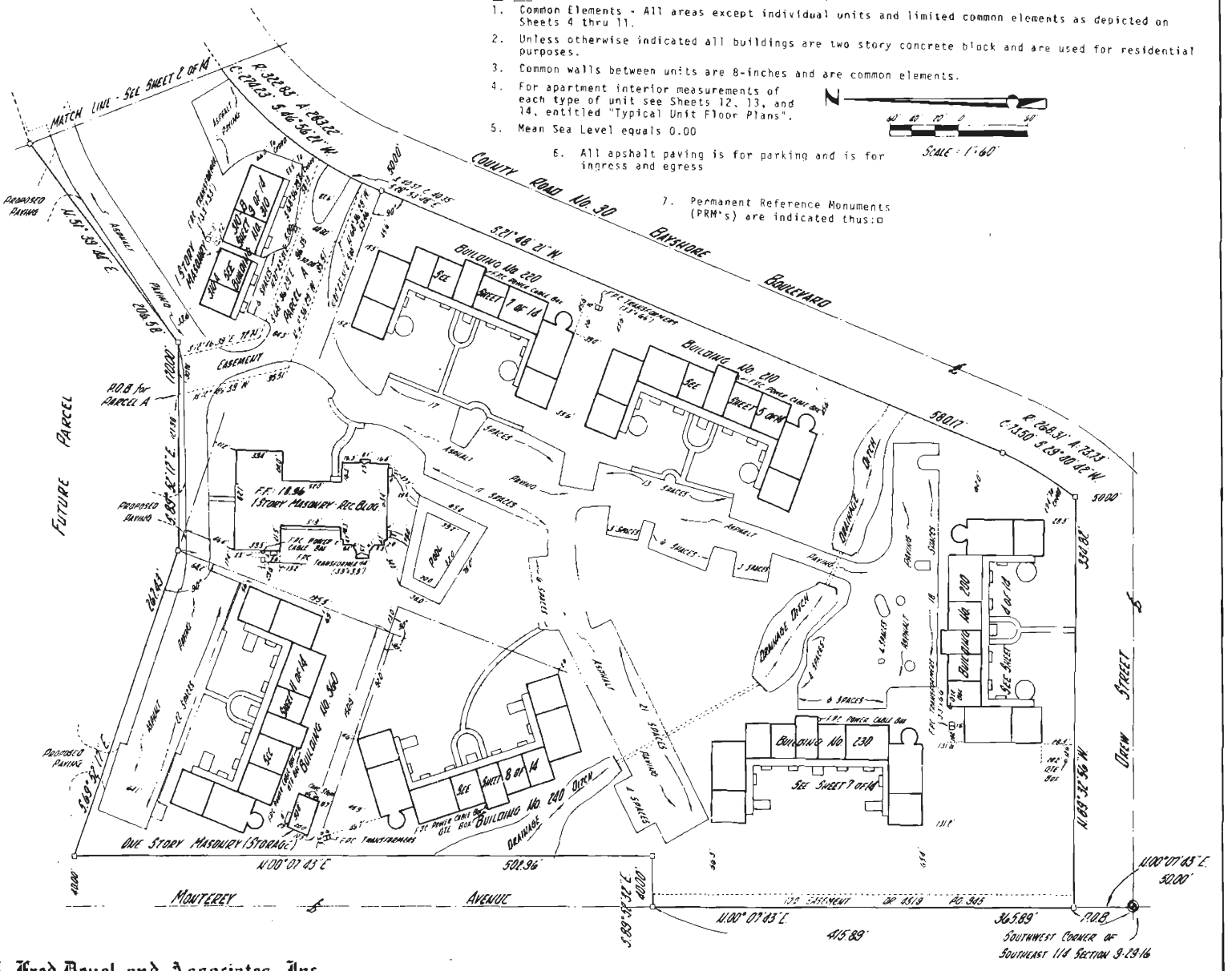
BEING A PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST.

CITY OF CLEARWATER, PINELLAS COUNTY, FLORIDA.

NOTES:

1. Common Elements - All areas except individual units and limited common elements as depicted on Sheets 4 thru 11.
2. Unless otherwise indicated all buildings are two story concrete block and are used for residential purposes.
3. Common walls between units are 8-inches and are common elements.
4. For apartment interior measurements of each type of unit see Sheets 12, 13, and 14, entitled "Typical Unit Floor Plans".
5. Mean Sea Level equals 0.00
6. All apshalt paving is for parking and is for ingress and egress
7. Permanent Reference Monuments (PRM's) are indicated thus:□

SCALE: 1"=60'



C. Fred Bruel and Associates, Inc.

SHEET 3 OF 14

HARBOUR TOWNE TWO

A Condominium

BEING A PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 9 · TOWNSHIP 29 SOUTH · RANGE 16 EAST

City Of Clearwater
Pinellas County · Florida

DESCRIPTION

Being a tract of land consisting of two parcels, referred to as the "Future Parcel" in the condominium documents of "Harbour Towne Condominiums" as recorded in O.R. 4824, Pages 78-170, Public Records of Pinellas County, Florida, further described as follows: Commence at the S 1/4 corner of the Section 9, Township 29S, Range 16E and run thence along the centerline of said Section 9, N 00°07'43" E, 415.89' for a P.O.B. #1; thence continue along the said line, N 00°07'43" E, 732.30'; thence S 89°27'02" E, 864.43'; thence S 05°26'10"W 100.55'; thence S 69°46'56" W, 247.50'; thence S 51°39'44" W, 206.58'; thence N 89°52'17" W, 170.00'; thence N 69°52'17" W, 267.43'; thence S 00°07'43" W, 502.96'; thence N 89°32'56" W, 40.00' to the P.O.B. #1, containing 5.2125 acres MOL, subject to a 40' wide easement along the westerly boundary line of the above described parcel, together with a second parcel of land further described as follows: Commence at the S 1/4 corner of the said Section 9-29-16 and run thence along the centerline of the said Section 9, N 00°07'43" E, 1,148.19'; thence S 89°27'02" E, 929.10' for a P.O.B. #2; thence continue along the said line, S 89°27'02" E, 264.51'; thence S 24°55'25" E, 118.74' to the westerly right-of-way line of Bayshore Boulevard; thence along the said right-of-way line the following three calls: along the arc of a curve to the left, R=1,004.91', A=14.83', C=14.83', CB= S 62°47'50" W; S 62°22'21" W, 99.40' and along the arc of a curve to the right, R=1,369.94', A=57.73', C=57.73', CB= S 62°22'21" W; thence N 25°12'47" W, 111.63'; thence S 73°15'10"W, 114.93'; thence N 01°53'23" W, 120.97' to the P.O.B. #2, containing 0.8742 acres MOL, for a total of 6.0867 acres MOL for the said tract.

DEDICATION

TRECO, Inc., successor by merger to TRECO, formerly the Barnett Mortgage Trust, is the owner of the land described herein, has caused the land to be surveyed and platted as Harbour Towne Two, A Condominium, and makes the following dedication; provided, however, that nothing herein shall be deemed to create any rights in the public to the lands herein described:

Subject to the rights of TRECO, Inc., its successors and assigns, all common elements and all improvements located thereon as shown on this plat are reserved for the common use of the unit owners of Harbour Towne, A Condominium, and the Harbour Towne Condominium Association, Inc., and shall be the perpetual maintenance obligation of said association.

IN WITNESS WHEREOF, TRECO, Inc. has caused these presents to be duly executed and its seal to be affixed by its authorized officers on July 16, 1981.

Signed, sealed and delivered in the presence of:

Bert Simon

Gayle M. Todar

TRECO, INC.

By W Frost Weaver
Its: Executive Vice President

Attest M J Shelley
Its: Asst. Secretary

STATE OF FLORIDA
COUNTY OF Duval

The foregoing instrument was acknowledged before me this 16 day of July, 1981, by W Frost Weaver, the Ex Vice Pres and M. J. Shelley, the Asst. Secretary of TRECO, Inc., on behalf of the Corporation.

Gayle M. Todar
NOTARY PUBLIC
State of Florida at Large
My Commission Expires: 12-8-84

SURVEYOR's CERTIFICATE

The undersigned hereby certifies that he is a Registered Land Surveyor, under the laws of the State of Florida, that the improvements described are not substantially completed, and that upon substantial completion of improvements and final survey of such improvements the Surveyor's Certificate will be duly executed upon As-Built plans.

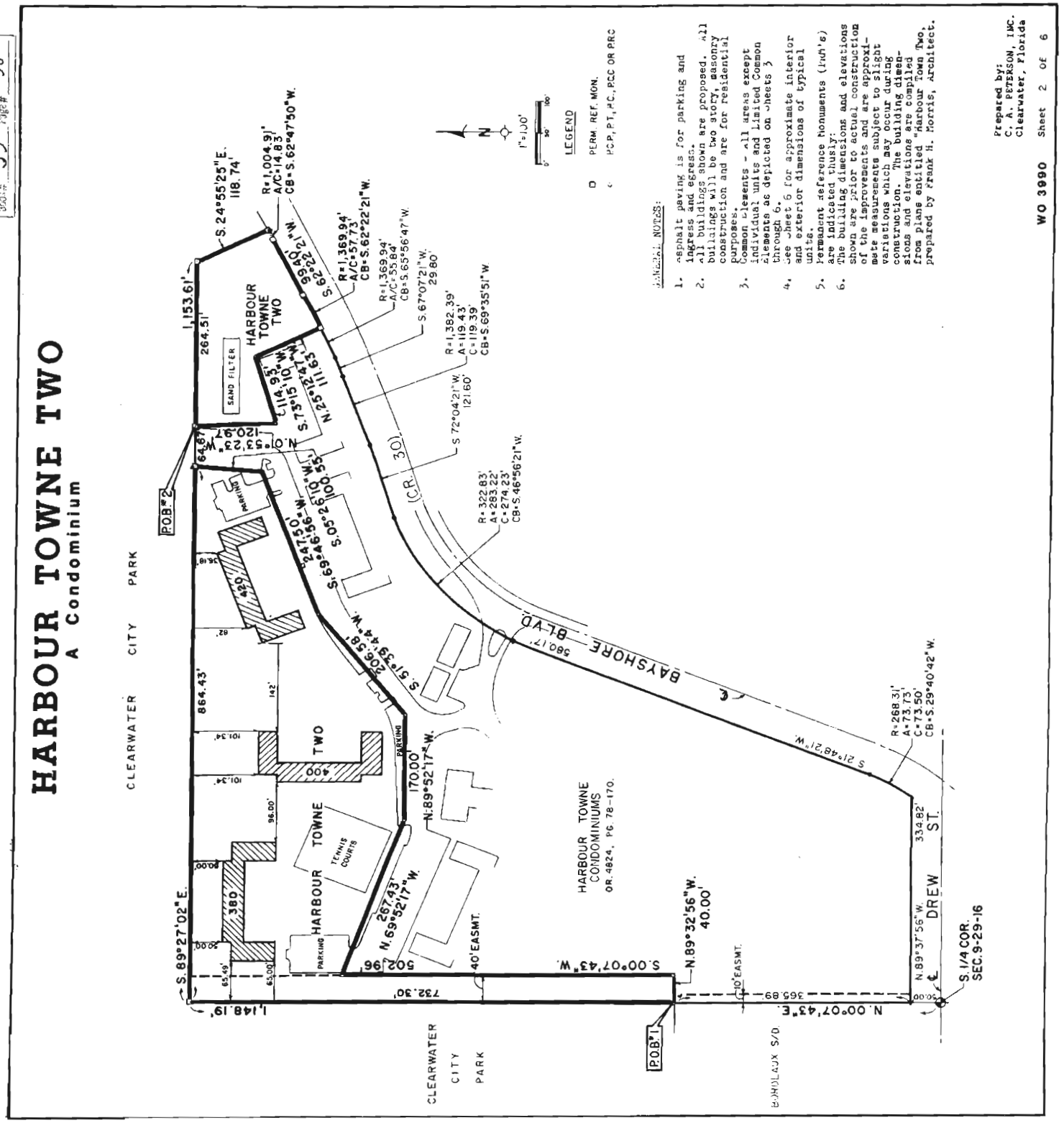
This certification together with the Declaration of Condominium of HARBOUR TOWNE TWO, and the exhibits attached thereto are an accurate representation of the location and dimension of the improvements described, and that the identification, location and dimensions of the common elements and of each condominium unit therein can be determined from these materials.

4 · 30 · 81
Date

Kami Targal
Kami Targal
Fla. Surveyor Cert. #2760

Prepared by:
C. A. PETERSON, INC.
Clearwater, Florida

WO 3990 Sheet 1 of 6


CONDOMINIUM
Book# 53 Page# 38
HARBOUR TOWNE TWO
A Condominium
CLEARWATER CITY PARK
HARBOUR TOWNE TWO
SAND FILTER
TENNIS COURTS
PARKING
HARBOUR TOWNE CONDOMINIUMS
OR. 4824, PG. 78-170.
BAYSHORE BLVD
DREW ST.
(C.R. 30)
CLEARWATER CITY PARK
BOULEVARD S/D
POB#1
POB#2
S. 1/4 COR. SEC. 9-29-16
S. 24°55'25"E. 118.74'
1,153.61'
264.51'
R=1,004.9'
A/C=14.83'
CB=S.62°47'50"W.
99.40'
S. 62°
R=1,369.94'
A/C=57.73'
CB=S.62°22'21"W.
R=1,369.94'
A/C=55.84'
CB=S.65°56'47"W.
S.67°07'21"W. 29.80'
R=1,382.39'
A=119.43'
C=119.39'
CB=S.69°35'51"W
S 72°04'21"W. 121.60'
R=322.83'
A=283.22'
C=274.23'
CB=S.46°56'21"W.
N.25°12'41"E. 111.63'
S.73°15'10"W. 114.95'
N.0°13'24"W. 120.97'
S.69°46'56"W. 247.50'
S.05°26'10"W. 100.56'
S.51°39'44"W. 206.58'
N.89°52'17"W. 170.00'
N.69°52'17"W. 267.93'
S.89°27'02"E. 1,148.19'
732.30'
S.00°07'43"W. 502.96'
40' EASMT.
N.89°32'56"W. 40.00'
10' EASMT.
N.00°07'43"E. 365.89'
N.89°37'56"W. 334.82'
S 21°48'21"W. 580.17'
R=268.31'
A=73.73'
C=73.50'
CB=S.29°40'42"W.
1"=100'
LEGEND
PERM. REF. MON.
PCP, PT, PC, PCC OR PRC
GENERAL NOTES:
1. Asphalt paving is for parking and ingress and egress.
2. All buildings shown are proposed. All buildings will be two story, masonry construction and are for residential purposes.
3. Common elements - All areas except individual units and Limited Common elements as depicted on sheets 3 through 6.
4. See sheet 5 for approximate interior and exterior dimensions of typical units.
5. Permanent reference monuments (Iron's) are indicated thusly:
6. The building dimensions and elevations shown are prior to actual construction of the improvements and are approximate measurements subject to slight variations which may occur during construction. The building dimensions and elevations are compiled from plans entitled "Harbour Town Two, prepared by Frank H. Morris, Architect.
Prepared by:
C. A. PETERSON, INC.
Clearwater, Florida
WO 3990 Sheet 2 of 6

Vacation Resolutions

Exhibit 5.5

01 Cash 11 Che
40 Rec 7.00
41 St
42 Sur
43 Int
Tot 70 8 DH

78109830

O.R. 4722 PAGE 2192

RESOLUTION

No. 78 - 81

RECORDED PINELLAS CO. FLORIDA
CLERK CIRCUIT COURT
JUL 14 3 39 PM '78

A RESOLUTION DEDICATING A CERTAIN RIGHT-OF-WAY IN BORDEAUX ESTATES, PINELLAS COUNTY, FLORIDA.

WHEREAS, the City of Clearwater is the owner of the hereinafter described property; and

WHEREAS, it has now come to the attention of the City Commission that said property has never been formally dedicated as right-of-way, although the same is to be used for such purpose; and

WHEREAS, the City Commission desires to officially dedicate said right-of-way by formal resolution;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF CLEARWATER, FLORIDA, IN SESSION DULY AND REGULARLY ASSEMBLED, AS FOLLOWS:

1. That the following described property be and the same is hereby dedicated as additional right-of-way for the intersection of Bordeaux Lane and Calais Lane for use by the general public and the City of Clearwater generally as their interests may appear:

Start at the NW corner of Lot 7, Bordeaux Estates, as recorded in Plat Book 78, page 25 of the Public Records of Pinellas County, Florida, for the P.O.B.; run thence N 80°26'26" W, 53.10 feet; thence run N 17°44'57" W, 78.35 feet; thence run S 89°26'48" E, 76.52 feet; thence run S 0°11'04" W, 82.70 feet to P.O.B.

2. That the City Clerk is hereby directed to record this Resolution in the Public Records of Pinellas County, Florida.

3. That this Resolution shall become effective immediately upon its passage.

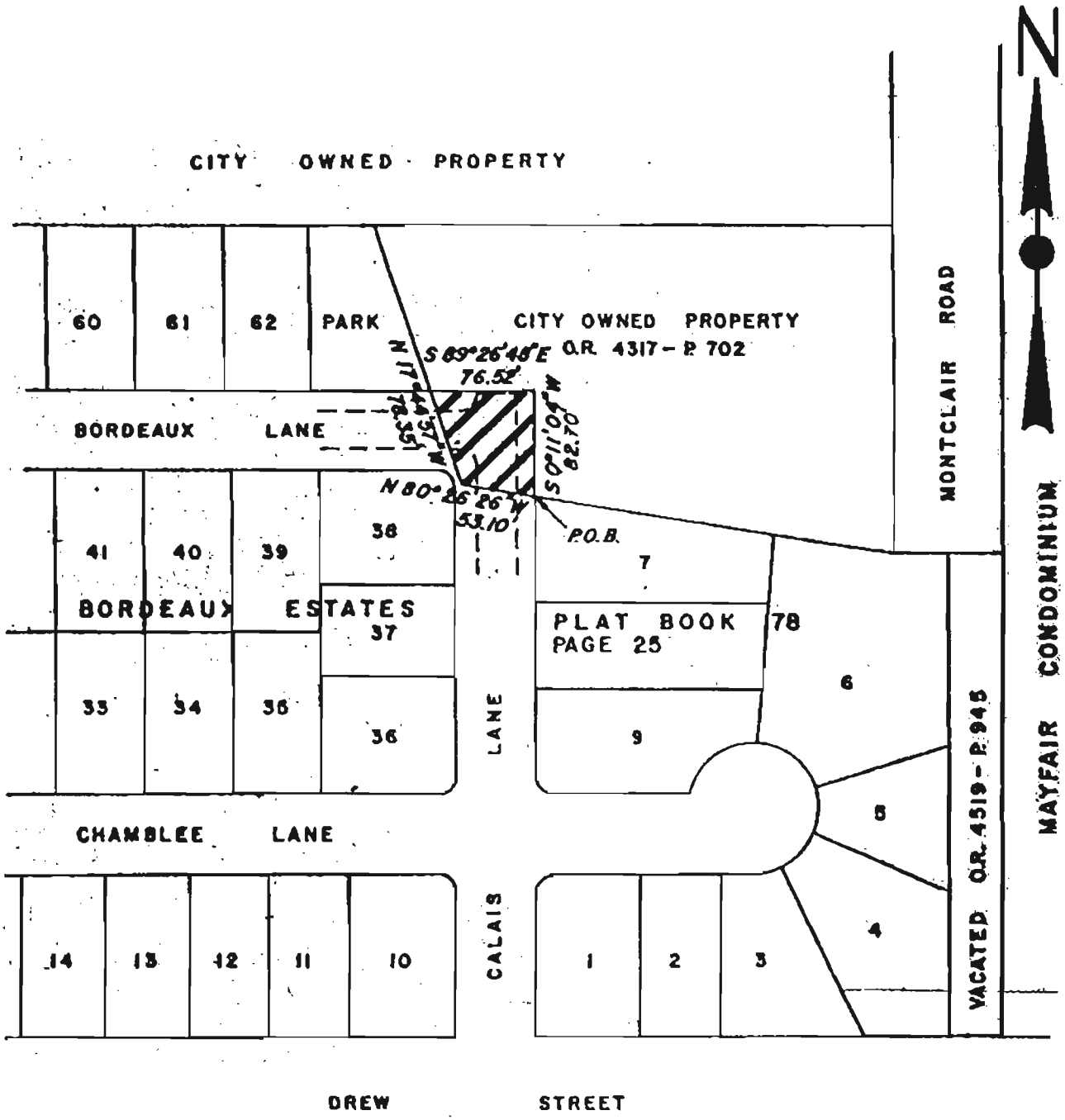
PASSED AND ADOPTED this 6th day of July, A.D. 1978.

Charles F. Locker
Mayor-Commissioner

Attest:
Cynthia E. Williams
City Clerk

This instrument was prepared by:
THOMAS A. BUSTIN, City Attorney
City of Clearwater, P.O. Box 4748
Clearwater, Florida 33518

RETURN TO:
CITY CLERK
P.O. BOX 4748
CLEARWATER, FLA. 33518



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
RIGHT-OF-WAY DEDICATION
BORDEAUX ESTATES

O.R. 4519 PAGE 945

77035711

MAR 9 4 16 PM '77

01 Cash U Chg
40 Rec 6.00
41 St
42 Sur
43 Int
Tot 6.00

RETURN TO:
CITY CLERK
P.O. BOX 4748
CLEARWATER, FLA. 33518

RESOLUTION

No. 77 - 20

A RESOLUTION VACATING A PORTION OF RIGHT-OF-WAY FOR MONTEREY AVENUE IN SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA.

WHEREAS, it has been requested by Carolina Connecticut Properties, Inc. owner of certain real property in Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, that the City of Clearwater, Florida, vacate a certain portion of right-of-way for Monterey Avenue; and

WHEREAS, after proper public notice and public hearing thereon, the City Commission finds that said right-of-way is not necessary nor required and it is deemed to be to the best interest and advantage of the City and the general public that the same be vacated;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF CLEARWATER, FLORIDA, IN SESSION DULY AND REGULARLY ASSEMBLED, AS FOLLOWS:

1. That the following:

Commence at the SE corner of the SW 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida; thence run N 0°07'28" E along the North-South centerline of said Section 9, 50.00 feet to a P.O.B.; thence Easterly along the North right-of-way line of Drew Street, 40.00 feet; thence N 0°07'28" E, 365.89 feet; thence N 89°52'32" W, 80.00 feet; thence S 0°07'28" W, 365.89 feet to the North right-of-way line of Drew Street; thence Easterly along the North right-of-way line of Drew Street, 40.00 feet to the P.O.B.,

be and the same is hereby vacated, closed and released, and the City of Clearwater herby quit claims and releases all of its right, title and interest thereto to the persons, firms or corporations entitled thereto by law, excepting that the City of Clearwater hereby retains a twenty-foot easement lying ten feet (10') each side of the centerline of said described real property for maintenance and installation of any or all public utilities and for access.

This instrument was prepared by:
THOMAS A. BUSTIN, City Attorney
City of Clearwater, P. O. Box 4748
Clearwater, Florida 33518

Deeds of Record

Exhibit 5.6

WARRANTY DEED
LONG FORM

DREW'S FORM R. E. 1

Manufactured and for sale by The H. & W. B. Drew Company
Jacksonville, Florida

365165B

O.R. 2298 PAGE 674

This Warranty Deed *Made the* 30th *day of* December *A. D. 19* 65 *by*

Roy A. Rigel, Widower,

hereinafter called the grantor, to City of Clearwater, Florida, a municipal corporation,

whose postoffice address is PO Box 1348, Clearwater, Florida

hereinafter called the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

Witnesseth: *That the grantor, for and in consideration of the sum of* $ 10.00 *and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the grantee all that certain land situate in* Pinellas *County, Florida, viz:*

The East Four Hundred Ninety (490) feet of the South onehundred (100) feet of the North four hundred sixty-seven and twenty-three hundredths (467.23) feet of the West Six Hundred Sixty (660) feet of the Northwest quarter (NW¼) of the Southeast Quarter (SE¼) of the Southwest Quarter (SW¼) and ALSO the South Two Hundred (200) feet more or less of the Northwest Quarter (NW¼) of the Southeast Quarter (SE¼) of the Southwest Quarter (SW¼) of Section Nine (9) Township Twenty-nine (29) South Range Sixteen (16) East, and further described as follows:

The East 490 feet of the following described tract: Beginning at the Northwest corner of the Southeast Quarter (SE¼) of the Southwest Quarter (SW¼) of Section 9 Township 29 South Range 16 East, and run thence South 0°11'00" West along the 40 acre line 367.23 feet for point of beginning, thence South 0°11'00" West 100 feet, thence South 89°26'13" East 660.0 feet, thence North 0°11'00" East 100 feet, thence North 89°26'13" West 660 feet to point of beginning, and also Begin at the Northwest corner of the Southeast Quarter (SE¼) of the Southwest Quarter (SW¼) of said Section, and run thence South 0°11'00" West along the 40 acre line four hundred sixty-seven and twenty-three hundredths (467.23) feet for point of beginning, from the point of beginning thus established run South 0°11'00" West Two Hundred (200) feet more or less to the Southwest corner of the North half (N½) of the Southeast Quarter (SE¼) of the Southwest Quarter (SW¼) of said Section, thence South 89°26'13" East six hundred sixty (660) feet, thence North 0°11'00" East two hundred (200) feet, thence North 89°26'13" West six hundred sixty (660) feet to the point of beginning.

PINELLAS COUNTY FLORIDA
DOCUMENTARY

FORM 1124 FLORIDA Warranty Deed (From a Corp.)   TUTTLANX REGISTERED U.S. PAT. OFFICE Tuttle Law Print, Publishers, Rutland, Vt.

67 41275

This Indenture,

O.R. 2605 PAGE 382

Made this 18th *day of* May *, A. D. 19*67

Wherever used herein, the term "party" shall include the heirs, personal representatives, successors and/or assigns of the respective parties hereto; the use of the singular number shall include the plural, and the plural the singular; the use of any gender shall include all genders.

Between STARDUST, INC.
a corporation existing under the laws of the State of Florida,
having its principal place of business in the County of Pinellas *and*
State of Florida *party of the first part, and*

BAUMGARDNER REALTY, INC.
North Haines Road, Clearwater 33515
of the County of Pinellas *and State of* Florida
party of the second part,

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* TEN and 00/100 - - - - - - - - - - - - - - - - - *Dollars, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part forever, the following described land, situate, lying and being in the County of* Pinellas *, State of Florida, to wit:*

The South 400 feet of North 410 feet of East 275 feet of Northwest Quarter (NW¼) of Southwest Quarter (SW¼), Section 9, Township 29 South, Range 16 E., Pinellas County, Florida,

RECORDED PINELLAS CO. FLORIDA HAROLD MULLENDORE, CLERK MAY 19 3 52 PM '67

Third
Subject to a certain Mortgage to/City National Bank of Clearwater as recorded at O. R. 2332, Page 276, with a current principal balance of $28,800.00 which grantees assume and agree to pay.

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, *the said party of the first part has caused these presents to be signed in its name by its President, and its corporate seal to be affixed, ~~attested by its~~ the day and year above written.*

(Corporate Seal)

STARDUST, INC.

By [signature] *President.*

Attest: ______________________

Signed, Sealed and Delivered in Our Presence:

[signature]

[signature]

[redacted]

State of Florida

County of PINELLAS

I Hereby Certify, *That on this* 18th *day of* May *A. D. 19*67, *before me personally appeared* John D. Stames *and* *President ~~and~~*
respectively of STARDUST, INC. *, a corporation under the laws of the State of* Florida *, to me known to be the persons described in and who executed the foregoing conveyance to*

BAUMGARDNER REALTY, INC.

executive line
FORM 125 FLORIDA - WARRANTY DEED
(To Corporation)

69066433

O.R. 3120 PAGE 231

This Indenture

Made this 10th *day of* July *A. D. 19* 69

Between RICHARD B. BAUMGARDNER, individually and as surviving spouse of ETHEL G. BAUMGARDNER, Deceased, joined by his wife, JUNE E. BAUMGARDNER

of the County of Pinellas *and State of* Florida *parties of the first part, and* BAUMGARDNER REALTY, INC. 923 N. Haines Road, Clearwater, 33515 *a corporation existing under the laws of the State of* Florida *having its principal place of business in the County of* Pinellas *and State of* Florida *party of the second part,*

Witnesseth, *that the said parties of the first part, for and in consideration of the sum of* ---------- TEN AND 00/100 ---------- *Dollars, to them in hand paid, the receipt whereof is hereby acknowledged, have granted, bargained, sold, aliened, remised, released, enfeoffed, conveyed and confirmed and by these presents do grant, bargain, sell, alien, remise, release, enfeoff, convey and confirm unto the said party of the second part and its successors and assigns forever, all that certain parcel of land lying and being in the County of* Pinellas *and State of Florida, more particularly described as follows:*

The South One Hundred Ninety-three (193) Feet of the North Six Hundred Three (603) Feet of the East Two Hundred Seventy-Five (275) Feet of the Northwest Quarter (NW¼) of the Southwest Quarter (SW¼) of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida.

Subject to Restrictions and Easements of record.

Subject to taxes for 1969 and subsequent years.

JUL 14 4 01 PM '69
RECORDED
PINELLAS CO. FLORIDA
HAROLD MILLER, JR. CLERK

This instrument was prepared by
JOHN R. BONNER
OF WOLFE, BONNER & HOGAN, ATTYS.
18 N. Ft. Harrison Ave.
Clearwater, Florida 33515

Together *with all the tenements, hereditaments and appurtenances, with every privilege, right, title, interest and estate, dower and right of dower, reversion, remainder and easement thereto belonging or in anywise appertaining.*

QUIT-CLAIM DEED RAMCO FORM 8

70061685. O.R. 3352 PAGE 77

This Quit-Claim Deed, *Executed this* 29th *day of* May *, A. D.* 1970 *, by* GERALD VINCENT BROWN, joined by his wife, JESSE M. BROWN

first party, to KENNETH M. BROWN

whose postoffice address is 600 Main Street, Dunedin, Florida

second party:

(Wherever used herein the terms "first party" and "second party" shall include singular and plural, heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, wherever the context so admits or requires.)

Witnesseth, *That the said first party, for and in consideration of the sum of* $ Ten and no/100 *in hand paid by the said second party, the receipt whereof is hereby acknowledged, does hereby remise, release and quit-claim unto the said second party forever, all the right, title, interest, claim and demand which the said first party has in and to the following described lot, piece or parcel of land, situate, lying and being in the County of* Pinellas *State of* Florida *to-wit:*

Beginning at the Northwest corner of the SE1/4 of the SW-1/4 of Section 9, Township 29 South, Range 16 East, and run thence South 0 deg. 11' 00" West along the 40 acres line 367.23 feet for P.O.B.; thence South 0 deg. 11' 00" West 100 feet; thence South 89 deg. 26' 13" East 660.0 feet; thence North 0 deg. 11' 00" East 100 feet; thence North 89 deg. 26' 13" West 660.0 feet to point of beginning; LESS the East 490 feet thereof, located in Pinellas County, Florida

RECORDED PINELLAS CO. FLORIDA HAROLD MULLENDORE, CLERK JUN 29 4 59 PM '70

PINELLAS COUNTY 06781 FLORIDA JUN29'70 P.B. 10825 DOCUMENTARY SURTAX 00.55

PINELLAS COUNTY 04092 STATE OF FLORIDA DOCUMENTARY STAMP TAX COMPTROLLER JUN29'70 P.B. 10521 00.30

To Have and to Hold *the same together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, interest, lien, equity and claim whatsoever of the said first party, either in law or equity to the only proper use, benefit and behoof of the said second party forever.*

In Witness Whereof, *The said first party has signed and sealed these presents the day and year first above written.*

Signed sealed and delivered in presence of:

FORM 1123 FLORIDA Warranty Deed (From a Corp.)

71027369

TUTELANX Registered U.S. Pat. Office
Turtle Law Print, Publishers, Rutland, Vt.

This Indenture,

O.R. 3501 PAGE 880

Made this 9th *day of* March *, A. D. 19* 71 *,*

Between PENNWOOD, INC.,
a corporation existing under the laws of the State of Florida *,*
having its principal place of business in the County of Pinellas *and*
State of Florida *party of the first part, and*
CITY OF CLEARWATER, FLORIDA; a Municipal Corporation; whose mailing address is: P. O. Box 4748 - Clearwater

of the County of Pinellas *and State of* Florida
part of the second part,

Witnesseth, *That the said party of the first part, for and in consideration of the sum of*.....TEN AND NO/100.....*Dollars, to it in hand paid, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, remised, released, conveyed and confirmed, and by these presents doth grant, bargain, sell, alien, remise, release, convey and confirm unto the said part of the second part, and* it's successors *heirs and assigns forever, all that certain parcel of land lying and being in the County of*.....
Pinellas.....*and State of Florida, more particularly described as follows:*

The East half (E½) of the North half (N½) of the Southeast Quarter (SE¼) of the Southwest Quarter (SW¼) of SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST; Less and except a 12½ foot strip along the North edge of said property, which is reserved for the use of the general public as a road.

This conveyance is made subject to taxes for the year 1971 and subsequent years. This conveyance is also subject to that certain Mortgage in favor of F. M. Tenny and Eva W. Tenny, his wife; dated February 11, 1967 and filed for record in O.R. 2552, Page 522 of the public records of Pinellas County, Florida. The purchaser herein assumes the present unpaid balance due on said Mortgage in the amount of $9,792.75.

MAR 12 3 29 PM '71

RECORDED
IN PINELLAS CO. FLORIDA
HAROLD MULLENDORE, CLERK

Together *with all the tenements, hereditaments and appurtenances, with every privilege, right, title, interest and estate, reversion, remainder and easement thereto belonging or in anywise appertaining*

To Have and to Hold *the same in fee simple forever.*

And the said party of the first part doth covenant with the said party of the second part that it is lawfully seized of the said premises: that they are free

©TUTBLANX REGISTERED U.S. PAT. OFFICE
Tuttle Law Print, Publishers, Rutland, Vt.

O.R. 3526 PAGE 324

This Indenture,

Wherever used herein, the term "party" shall include the heirs, personal representatives, successors and/or assigns of the respective parties hereto; the use of the singular number shall include the plural, and the plural the singular; the use of any gender shall include all genders; and, if used, the term "note" shall include all the notes herein described if more than one.

Made this 7th *day of* April *, A. D. 19* 71

Between PENNWOOD, INC.

a corporation existing under the laws of the State of Florida
party of the first part, and CITY OF CLEARWATER, FLORIDA, a municipal corporation,
, of the County of Pinellas *and State of* Florida *party of the second part,*
whose mailing address is PO Box 4748, Clearwater, Florida 33518

Witnesseth, *that the said party of the first part, for and in consideration of the sum of*---------------------One---------------------------------*Dollars, in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has remised, released and quitclaimed, and by these presents does remise, release and quitclaim unto the said party of the second part all the right, title, interest claim and demand which the said party of the first part has in and to the following described lot , piece or parcel of land, situate lying and being in the County of* Pinellas *State of Florida, to wit:*

North 12-1/2 feet of the East 1/2 of the North 1/2 of the Southeast 1/4 of the Southwest 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida.

FLORIDA DOCUMENTARY SUR TAX 00.55 PINELLAS COUNTY

0583222

STATE OF FLORIDA DOCUMENTARY STAMP TAX COMPTROLLER APR 21 '71 P.B. 10521 = 00.30

APR 21 4 09 PM '71

71043041

To Have and to Hold *the same, together with all and singular the*

FORM 1109 Florida Photostat QUIT CLAIM DEED.

71053986

TUTOLANX REGISTERED U.S. PAT. OFFICE
Tuttle Law Print, Publishers, Rutland, Vt.

This Indenture

O.R. 3544 PAGE 589

Wherever used herein, the term "party" shall include the heirs, personal representatives, successors and/or assigns of the respective parties hereto; the use of the singular number shall include the plural, and the plural the singular; the use of any gender shall include all genders; and, if used, the term "note" shall include all the notes herein described if more than one.

Made this 5th *day of* May *A. D. 1971*

Between

F. M. TENNY ~~and EVA W. TENNY, his wife,~~

of the County of Pinellas *and State of* Florida *party of the first part,*

and CITY OF CLEARWATER, FLORIDA, a municipal corporation, whose mailing address is P O Box 4748, Clearwater

of the County of Pinellas *and State of* Florida *party of the second part,*

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* ----------One---------- *Dollars, in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has remised, released and quitclaimed, and by these presents does remise, release and quitclaim unto the said party of the second part all the right, title, interest claim and demand which the said party of the first part has in and to the following described lot, piece or parcel of land, situate lying and being in the County of* Pinellas *State of Florida, to wit:*

MAY 19 4 38 PM '71

North 12-1/2 feet of the East 1/2 of the North 1/2 of the Southeast 1/4 of the Southwest 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida

PINELLAS COUNTY 009946

FLORIDA DEPT. OF REVENUE MAY 19 '71 P.B. 11047

DOCUMENTARY SURTAX 00.55

PINELLAS COUNTY 060313

STATE OF FLORIDA DOCUMENTARY STAMP TAX COMPTROLLER MAY 19 '71 P.B. 10521 00.30

To Have and to Hold *the same, together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, interest and claim whatsoever of the said party of the first part, either in law or equity, to the only proper use, benefit and behoof of the said party of the second part.*

In Witness Whereof, *the said party of the first part has hereunto set his hand and seal the day and year first above written.*

Signed, Sealed and Delivered in Our Presence:

Patricia A. Kerr

Mary Margaret Smith

F. M. Tenny (L.S.)

F. M. Tenny

~~Eva W. Tenny~~ (L.S.)

~~Eva W. Tenny~~

This instrument was prepared by:
HERBERT M. BROWN, City Attorney
City of Clearwater, P. O. Box 4748
Clearwater, Florida 33518

FORM 111 Florida QUIT CLAIM DEED (Long Corporation) 7105102

TUTBLANX REGISTERED U.S. PAT. OFFICE
Tuttle Law Print, Publishers, Rutland, Vt.

This Indenture,

O.R. 3546 PAGE 374

Wherever used herein, the term "party" shall include the heirs, personal representatives, successors and/or assigns of the respective parties hereto; the use of the singular number shall include the plural, and the plural the singular; the use of any gender shall include all genders; and, if used, the term "note" shall include all the notes herein described if more than one.

Made this 29th *day of* April *, A. D. 19* 71

Between MEBRELL CORPORATION

a corporation existing under the laws of the State of Florida *party of the first part, and* CITY OF CLEARWATER, FLORIDA,

a municipal corporation, *of the County of* Pinellas *and State of* Florida *party of the second part,* whose mailing address is PO Box 4748, Clearwater, Florida 33518

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* ----------One----------*Dollars, in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has remised, released and quitclaimed, and by these presents does remise, release and quitclaim unto the said party of the second part all the right, title, interest claim and demand which the said party of the first part has in and to the following described lot , piece or parcel of land, situate lying and being in the County of* Pinellas *State of Florida, to wit:*

100 feet of land lying Easterly and Southerly of and adjacent to the following described line: Start at the NE corner of the SW 1/4 of the SE 1/4 of Section 9, Township 29 South, Range 16 East and run S 00°05'14" W 258.33 feet for a P.O.B.; thence run along a curve to the left, radius 1,004.91 feet, arc 94.84 feet, chord 94.81 feet, chord bearing S 65°04'35" W; thence run S 62'22"21" W 99.40 feet to a point of curve; thence along a curve to the right, radius 1369.94 feet, arc 114.57 feet, chord 113.54 feet, chord bearing S 64°44'51" W; thence S 67°07'21" W 29.80 feet to a point of curve; thence along a curve to the right, radius 1,382.39 feet, arc 119.43 feet, chord 119.39 feet, chord bearing S 69°35'51" W; thence S 72°04'21" W 121.60 feet to a point of curve; thence along a curve to the left, radius 322.83 feet, arc 283.22 feet, chord 274.23 feet, chord bearing S 46°56'21" W; thence S 21°48'21" W, 580.17 feet to a point of curve; thence along a curve to the right, radius 268.31 feet, arc 73.73 feet, chord 73.50 feet, chord bearing S 29°40'42" W to a Point of Ending; said Point of Ending lying N 00°07'43" E, 50.0 feet; and thence S 89°32'56" E 334.82 feet from the Southwest corner of the SE 1/4 of said Section 9, Township 29 South, Range 16 East.

MAY 21 4 05 PM '71

To Have and to Hold *the same, together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, interest and claim whatsoever of the said party of the first part, either in law or equity, to the only proper use, benefit and behoof of the said party of the second part.*

71055103 O.R. 3546 PAGE 376

WARRANTY DEED
(FROM CORPORATION)

RAMCO FORM 23

This Warranty Deed *Made and executed the* 29th *day of* April *A. D.* 1971 *by*

MEBRELL CORPORATION

a corporation existing under the laws of Florida *and having its principal place of business at* St. Petersburg, Florida *hereinafter called the grantor, to*

CITY OF CLEARWATER, FLORIDA, a municipal corporation,

whose postoffice address is PO Box 4748, Clearwater, Florida 33518

hereinafter called the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

Witnesseth: *That the grantor, for and in consideration of the sum of* $ 1.00 *and other valuable considerations, receipt whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the grantee, all that certain land situate in* Pinellas *County, Florida, viz:*

MAY 21 4 05 PM '71

That portion of the N 1/2 of the SW 1/4 of the SE 1/4 of Section 9, Township 29 South, Range 16 East lying Southerly and Easterly of the Southeasterly right of way line of Bayshore Drive (C.R. #30) also that portion of the SW 1/4 of the SW 1/4 of the SE 1/4 of Section 9, Township 29 South, Range 16 East lying Easterly of the Easterly right of way line of Bayshore Drive (C.R. #30).

In the event that the City fails to properly maintain the subject property in an attractive and well kept manner, then the Grantor reserves the right to beautify the same from time to time in the interest of preserving the vista from Grantor's adjacent property. Grantor reserves the right to build a small dock to serve boating enthusiasts residing on the adjacent upland property but agrees in so doing to abide by all pertinent laws, rules and regulations of whatever nature. *

Together *with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.*

To Have and to Hold, *the same in fee simple forever.*

And *the grantor hereby covenants with said grantee that it is lawfully seized of said land in fee simple; that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances* *The above described parcel shall only be used for a park with no temporary or permanent structures on the land. In the event the Grantee herein uses the said property herein for some other purpose, then the same shall revert to the Grantor or its assigns.

(CORPORATE SEAL)

In Witness Whereof *the grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.*

ATTEST: Secretary

MEBRELL CORPORATION

By Vice President

Signed, sealed, and delivered in the presence of:

STATE OF FLORIDA
COUNTY OF ~~PINELLAS~~ BROWARD }

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments,

A 055106

O.R. 3546 PAGE 383

RAMCO FORM 33

WARRANTY DEED
(FROM CORPORATION)

This Warranty Deed *Made and executed the* 29th *day of* April *A. D.* 1971 *by*

MEBRELL CORPORATION

a corporation existing under the laws of Florida *and having its principal place of business at* St. Petersburg, Florida *hereinafter called the grantor, to*

CITY OF CLEARWATER, FLORIDA, a municipal corporation,

whose postoffice address is PO Box 4748, Clearwater, Florida 33518

hereinafter called the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

Witnesseth: *That the grantor, for and in consideration of the sum of* $1.00 *and other valuable considerations, receipt whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the grantee, all that certain land situate in* Pinellas *County, Florida, viz:*

Begin at the SW corner of the SE 1/4 of Section 9, Township 29 South, Range 16 East and run thence along the 1/4 section line N 0°07'43" E, 1148.19 feet for P.O.B.; thence continue N 0°07'43" E, 185 feet to the 40 acre corner; thence S 89°27'02" E along the 40 acre line, said line also being the South line of Del Oro Groves Sub. as recorded in Plat Book 12, page 2 of the Public Records of Pinellas County, Fla., 1316.44 feet to the 40 acre corner; thence S 0°05'14" W along the 40 acre line, 258.33 feet to a point of intersection with the Northwesterly right of way line of Bayshore Drive (C.R.#30); thence along the Northwesterly right of way line of Bayshore Drive (C.R.#30) along a curve to the left; radius 1004.91 feet, arc 80.03 feet; chord 80.00 feet, chord bearing S 65°29'55" W; thence N 24°55'25" W, 118.74 feet; thence N 89°27'02" W, 1193.61 feet to P.O.B., LESS the W. 40 feet thereof for road right of way.

RECORDED
PINELLAS CO. FLORIDA
CLERK CIRCUIT COURT

4 06 PM '71
MAY 21

Together *with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.*

To Have and to Hold, *the same in fee simple forever.*

And *the grantor hereby covenants with said grantee that it is lawfully seized of said land in fee simple that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances.* In the event that the City fails to properly maintain the subject property in an attractive and well kept manner, then the Grantor reserves the right to beautify the same from time to time in the interest of preserving the vista from Grantor's adjacent property.

In Witness Whereof *the grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.*

(CORPORATE SEAL)

ATTEST: Secretary

MEBRELL CORPORATION

WARRANTY DEED (FROM CORPORATION)

RAMCO FORM 33

This Warranty Deed *Made and executed the* 28th *day of* April *A. D.* 1971 *by*

MEBRELL CORPORATION

a corporation existing under the laws of Florida *and having its principal place of business at* St. Petersburg, Florida *hereinafter called the grantor, to*

CITY OF CLEARWATER, FLORIDA, a municipal corporation,

whose postoffice address is PO Box 4748, Clearwater, Florida 33518

hereinafter called the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

PINELLAS COUNTY 10073 FLORIDA DOCUMENTARY SURTAX 00.55 MAY 21 '71

Witnesseth: *That the grantor, for and in consideration of the sum of* $ 1.00 *and other valuable considerations, receipt whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the grantee, all that certain land situate in* County, Florida, *viz:*

The South 50.0 feet of the Southwest 1/4 of the Southwest 1/4 of the Southeast 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida.

AND

The West 40.0 feet of the Southwest 1/4 of the Southeast 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida.

This deed is given for right of way purposes.

MAY 21 1 4 06 PM '71

Together *with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.*

To Have and to Hold, *the same in fee simple forever.*

And *the grantor hereby covenants with said grantee that it is lawfully seized of said land in fee simple that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances*

PINELLAS COUNTY 06495 STATE OF FLORIDA DOCUMENTARY STAMP TAX COMPTROLLER P.R. 10521 MAY21'71 00.30

MEBRELL INC. CORPORATE SEAL 1971

In Witness Whereof *the grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.*

72148629

O.R. 3931 PAGE 117

This instrument was prepared by
CHESTER B. McMULLEN, JR.
305 S. Osceola Avenue
Clearwater, Florida 33516

WARRANTY DEED BY TRUSTEES OF DISSOLVED CORPORATION

THIS INDENTURE, made this 22nd day of November 1972, between CHESTER B. McMULLEN, JR., RETA JORDAN AND LENA E. MORIN, all of Clearwater, Pinellas County, Florida, being the Directors of West Indies Corporation, a dissolved Florida corporation, at the time of its dissolution and as such Trustees of the property of such dissolved corporation for the benefit of the stockholders, party of the first part and CHESTER B. McMULLEN, JR., whose mailing address is 410 West Druid Road, Clearwater, Pinellas County, Florida 33516, party of the second part,

WITNESSETH, that the said parties of the first part, for and in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration, to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained and sold to the said party of the second part, his heirs and assigns forever the following described land, situate, lying and being in the County of Pinellas, State of Florida, to-wit:

An undivided one-sixth (1/6) interest in and to the following land, to-wit:

Southeast Quarter (SE¼) of the Southeast Quarter (SE¼) of Section 9, Township 29 South, Range 16 East;

AND

Government Lot One (1), Section 15, Township 29 South, Range 16 East;

AND

Government Lot Four (4), Section 10, Township 29 South, Range 16 East.

Return to:
Chester B. McMullen, Jr.
Attorney at Law
305 S. Osceola Avenue
Clearwater, Florida 33516

NOV 27 2 53 PM '72
CLERK CIRCUIT COURT

And the said parties of the first part do hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year first above written

Signed sealed and delivered in the presence of:

WEST INDIES CORPORATION

75101738 4317 PAGE 702

THIS INDENTURE, Made this 2nd day of January A.D. 19 75,

between SUNSTATE BUILDERS, INC.

corporation organized and existing under the laws of the State of Florida

and having its principal office and place of business in the City of Tampa

County of Hillsborough State of Florida, party of

the first part, and CITY OF CLEARWATER, a Municipal Corporation,

of the county of Pinellas State of Florida, party of

the second part, whose mailing address is City Hall, Clearwater, Florida; 33518

WITNESSETH, That the said party of the first part, for and in consideration of the sum of Ten and no/100 Dollars -($10.00)---- and other valuable considerations, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part, its successors and assigns forever, the following described lands, situate, lying and being in the County of

Pinellas State of Florida, to-wit:

A parcel of land lying in the South 1/2 of the Southeast 1/4 of the Southwest 1/4 of Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, more particularly described as follows:
Commencing at the SE corner of the SW 1/4 of Section 9, run North 00°07'28" East along the North-South centerline of Section 9 a distance of 666.89 feet; thence North 89°26'26" West a distance of 40.00 feet to the point of beginning. From said point of beginning run South 00°07'28" West a distance of 251.00 feet; thence North 80°26'26" West a distance of 330.00 feet; thence North 17°44'57" West a distance of 210.00 feet; thence South 89°26'26" East a distance of 390.00 feet to the point of beginning

RETURN TO: CITY CLERK P.O. BOX 4748 CLEARWATER, FLA. 33518

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever, except taxes and assessments for the year 1974 and subsequent years.

PINELLAS COUNTY 1 7 1 1 3 STATE OF FLORIDA DOCUMENTARY STAMP TAX DEPT. OF REVENUE P.B. 19534 AUG-8'75 $00.30

PINELLAS COUNTY 1 0 0 5 3 2 FLORIDA DEPT. OF REVENUE AUG-8'75 P.B. 11047 DOCUMENTARY SURTAX $00.55

IN WITNESS WHEREOF, the said party of the first part has caused these presents to be executed in its name by its proper officers and its corporate seal to be hereto affixed the day and year first above written.

SUNSTATE BUILDERS, INC.

XXXXXXXXXXXXXXX

RECORDED PINELLAS CO. FLORIDA CLERK CIRCUIT COURT By

3 30 PM '75

President.

FORM 109 — QUIT CLAIM DEED

executive line

80083889

O.R. 5028 PAGE 1060

CLERK CIRCUIT COURT

MAY 28 4 31 PM '80

40 Rec 10.00
41 St
42 Sur
43 Int
Tot 10.00

This Indenture

Made this 27th day of May A. D. 19 80

Between G. PATRICK ILEY and JACQUELINE H. ILEY, his wife, and GEORGE RUPPEL and SANDRA J. RUPPEL, his wife

Pinellas and State of Florida, of the County of party of the first part,

and CITY OF CLEARWATER, FLORIDA, a municipal corporation
12 South Osceola Avenue, Clearwater, Florida 33516

Pinellas and State of Florida, of the County of party of the second part,

Witnesseth, that the said party of the first part, for and in consideration of the sum of Ten and No/100---------- Dollars, in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has remised, released and quitclaimed, and by these presents does remise, release and quitclaim unto the said party of the second part all the right, title, interest claim and demand which the said party of the first part has in and to the following described lot, piece or parcel of land, situate lying and being in the County of Pinellas State of Florida, to wit:

SEE EXHIBIT "A" ATTACHED HERETO AND
HEREBY MADE A PART HEREOF

STATE OF FLORIDA
DOCUMENTARY STAMP TAX
DEPT OF REVENUE
00.40

14 14313707 72 0001. 29MA
40 7.90
41 .40 DS
7.90 CK

THIS INSTRUMENT PREPARED BY:
Dennis G. Ruppel, Esq.
JOHNSON, BLAKELY, POPE, BOKOR & RUPPEL, P.A.
Post Office Box 1368
Clearwater, Florida 33517

INSTRUMENT PREPARED BY (& RETURN TO):
DENNIS G. RUPPEL, ESQ.
P.O. BOX 1368
CLEARWATER, FLORIDA 33517

To Have and to Hold the same, together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, interest and claim whatsoever of the said party of the first part, either in law or equity, to the only proper use, benefit and behoof of the said party of the second part.

In Witness Whereof, the said party of the first part has hereunto set his hand and seal the day and year first above written.

Signed, Sealed and Delivered in Our Presence:
(AS TO ALL SIGNATURES)

G. PATRICK ILEY (LS)

JACQUELINE H. ILEY (LS)

GEORGE RUPPEL (LS)

SANDRA J. RUPPEL (LS)

State of Florida,
County of Pinellas

I HEREBY CERTIFY, That on this day personally appeared before me, an officer duly authorized to administer oaths and take acknowledgments,
G. PATRICK ILEY, JACQUELINE H. ILEY, GEORGE RUPPEL and
SANDRA J. RUPPEL

SCHEDULE "A"

Parcel 1 -
The North Three-Fourths (3/4) of the Southwest Quarter (SW 1/4) of the Southwest Quarter (SW 1/4) of Section Nine (9) Township Twenty-nine (29) South, Range Sixteen (16) East.

Subject to the Right of Way of County Highway No. 31 along the East 33 feet of said land. Less the following described parcels:

1. All land included in Plat of Kapok Terrace First Addition, according to the map or plat thereof as recorded in Plat Book 49, pages 48, Public Records of Pinellas County, Florida.

2. Beginning at a point 965.78 feet South of the Northeast corner of the SW 1/4 of the SW 1/4 of Section 9, Township 29 South, Range 16 East for a point of beginning, and run thence South along the East boundary of said quarter section a distance of thirty-five feet; run thence North 89°24'14" West a distance of 1337 feet more or less to the West boundary of said Section; run thence North along the West boundary of said Section a distance of thirty-five feet; run thence East in a straight line to the point of beginning.

3. That part of said tract lying North of the South line of Kapok Terrace First Addition extended West to the West boundary of the SW 1/4 of the SW 1/4 of said Section. Containing 16 and 3/4 acres M.O.L.

Parcel 2 -
The South one-fourth (S1/4) of the SOUTHWEST QUARTER (SW 1/4) of the SOUTHWEST QUARTER (SW1/4) of SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST: less and except the South 30 feet thereof; and less also existing road right of way; AND ALSO:

The South 35 feet of the North three-fourths (N 3/4) of the SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) of SECTION 9, TOWNSHIP 29 SOUTH, RANGE 16 EAST; less and except existing road right of way.

Parcel 3 - The East 1/2 of the South 1/2 of the Southeast 1/4 of the Southeast 1/4, less the South 30 feet, AND
The West 1/2 of the South 1/2 of the Southeast 1/4 of the Southeast 1/4 LESS that part described in Instrument No. 188343A, dated March 17, 1955, filed March 18, 1955, recorded in Deed Book 1525, page 194 Public Records of Pinellas County, as follows: "Commence at a stake at the Southwest corner of the Southeast Quarter (SE 1/4) of the Southeast Quarter (SE 1/4) of Section 8, Township 29 South, Range 16 East, for point of beginning, run thence North along said quarter quarter section line to a stak at the Northwest corner of S 1/2 of Southeast Quarter (SE 1/4) of Southeast Quarter (SE 1/4); thence East 660 feet to a stake; thence South parallel to said quarter quarter section line to a stake lying on the South line of said Southeast Quarter (SE 1/4) of Southeast Quarter (SE 1/4) thence West 660 feet to point of beginning; same being also described as: The West 10 acres of the South Half (S1/2) of the South east Quarter of the Southeast Quarter (SE 1/4) of Section 8, Township 29 South, Range 16 East, lying and being in Pinellas County, Florida." In SECTION 8, TOWNSHIP 29 South, RANGE 16 EAST, Public Records of Pinellas County, Florida.

Parcel 4 - Being a composite description of parcels 1 and 2 described above:

The SW 1/4 of the SW 1/4 of Section 9, Township 29 South, Range 16 East LESS Kapok Terrace First Addition as recorded in Plat Book 49, page 28 also less that part of said tract lying North of the South line of Kapok Terrace First Addition extended West to the West boundary of the SW 1/4 of the SW 1/4 of said section. Subject to right of way for County Road 31 on the East and LESS the South 30 feet as conveyed to the City of Clearwater in O.R. Book 2457, page 471.

FORM 1104 WARRANTY DEED (Statutory Form)

O.R. 6209 PAGE 488

This Indenture. 86082319

Wherever used herein, the term "party" shall include the heirs, personal representatives, successors and/or assigns of the respective parties hereto, the use of the singular number shall include the plural, and the plural the singular; the use of any gender shall include all genders, and, if used, the term "note" shall include all the notes herein described if more than one.

Made this 17th *day of* APRIL *A. D. 19* 86
Between HAVENTREE HOMES, INC., a Florida corporation,

of the County of PINELLAS *in the State of* FLORIDA
party of the first part, and CITY OF CLEARWATER, FLORIDA, a municipal corporation; whose address is P.O. Box 4748, Clearwater, Florida 33518-4748
of the County of PINELLAS *in the State of* FLORIDA
party of the second part,

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* O.V.C. AND TEN ------------------------------------ *Dollars, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part his heirs and assigns forever, the following described land, situate lying and being in the County of* PINELLAS *State of Florida, to wit:*

A parcel of land lying in the Northwest Quarter (NW 1/4) of the Southwest Quarter (SW 1/4) of the Southwest Quarter (SW 1/4) of Section 9, Township 29 South, Range 16 East, described as follows:

Begin at the Southwest corner of Lot 1, in Block "N" of Kapok Terrace - 1st Addition as recorded in PlatBook 49, page 48, of the public records of Pinellas County, Florida, for a P.O.B.; and from the P.O.B. run N 0 deg. 11' 59" E a distance of 138.0 feet; run thence N 89 deg. 24' 14" West a distance of 442.44 feet more or less to the west boundary of said Section 9; run thence South along the west boundary of said Section 9 a distance of 138.0 feet and run thence easterly in a straight line to the established P.O.B. LESS AND EXCEPT THE ROAD RIGHT-OF-WAY.

Subject to easements and restrictions of record.

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, *the said party of the first part has hereunto set his hand and seal the day and year first above written.*

Signed, Sealed and Delivered in Our Presence: HAVENTREE HOMES, INC.

BY: Kevin C. Jeffery, President L.S.

L.S.

L.S.

L.S.

01 Cash 11 Chg
40 Rec 5.00
41 DS 235.00
43 Int
Tot 240.00

Documentary Tax Pd. $235.00
$ Intangible Tax Pd.
Karleen F. De Blaker, Clerk, Pinellas County
By Deputy Clerk

14 14794976 T2 1. 5DA.84
40 5.00
41 235.00
TOTAL 240.00 CK

Return To:
Wilson and Griffin P.A.
401 South Lincoln Avenue
Clearwater, Florida 33516

State of Florida
County of PINELLAS

I Hereby Certify That on this day personally appeared before me, an officer duly authorized to

PREPARED BY DAVID M. GRIPPIN, ESQ.
WILSON AND GRIFFIN P.A.
401 SOUTH LINCOLN AVENUE
CLEARWATER, FLORIDA 33516

CLERK CIRCUIT COURT
Apr 24 3 25 PM '86

FORM 124 FLORIDA Warranty Deed (From a Corp.)

executive line

86238267

O.R. 6334 PAGE 1842

CLERK OF THE CIRCUIT COURT PINELLAS COUNTY

OCT 9 9 25 AM '86

This Indenture,

Made this 8th *day of* October *, A. D. 19* 86

Between KAPOK CORPORATION, d/b/a KAPOK TREE INNS CORPORATION

a corporation existing under the laws of the State of Delaware *, having its principal place of business in the County of* Pinellas *and State of* Florida *party of the first part, and*

PINELLAS COUNTY, a political subdivision of the State of Florida
315 Court Street, Clearwater, Florida 33516

of the County of Pinellas *and State of* Florida *party of the second part,*

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* --------TEN AND 00/100-------------------------------------- *Dollars, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part forever, the following described land, situate, lying and being in the County of* Pinellas *, State of Florida, to wit:*

The East 157.5 Ft. of the South 193 Ft. of the North 603 Ft. of the East 275 Ft. of the Northwest 1/4 of the Southwest 1/4 of Section 9, Township 29 South, Range 16 East, LESS existing right-of-way as shown on the McMullen-Booth Road Maintained Right-of-Way Map as recorded in Road Plat Book B, Page 61, Public Records of Pinellas County, Florida.

THIS DEED IS GIVEN BY GRANTOR TO THE COUNTY OF PINELLAS UNDER THREAT OF AND IN LIEU OF THE CONDEMNATION BY GRANTEE OF THE REAL ESTATE DESCRIBED HEREIN, AND NO FLORIDA DOCUMENTARY STAMP TAX IS PAYABLE ON ACCOUNT OF THIS TRANSACTION, IN ACCORDANCE WITH THE PROVISIONS OF FLORIDA ADMINISTRATIVE CODE RULE 12 B-4.14(15)(b).

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, *the said party of the first part has caused these presents to be signed in its name by its President, and its corporate seal to be affixed, ~~attested by its~~ the day and year above written.*

(Corporate Seal) N/C

KAPOK CORPORATION, d/b/a
KAPOK TREE INNS CORPORATION

~~Attest:~~ N/C

By [signature] *President.*

Signed, Sealed and Delivered in Our Presence:

[signature]

Linda A. Wilson

State of Florida

County of Pinellas

I Hereby Certify, *That on this* 8th *day of* October *A. D. 19* 86, *before me personally appeared* AARON R. FODIMAN ~~and~~ *President* ~~and~~ ~~respectively~~ *of* KAPOK CORPORATION, d/b/a KAPOK TREE INNS CORPORATION, *a corporation under the laws of the State of* Delaware *, to me known to be the person~~s~~ described in and who executed the foregoing conveyance to* PINELLAS COUNTY, a political subdivision of the State of Florida *and severally acknowledged the execution thereof to be* his ~~their~~ *free act and deed as such officer~~s~~, for the uses and purposes therein mentioned; and that they affixed thereto the official seal of said corporation, and the said instrument is the act and deed of said corporation.*

Witness *my signature and official seal at* Clearwater *in the County of* Pinellas *and State of Florida, the day and year last aforesaid.*

Linda A. Wilson
Notary Public
My Commission Expires 5/21/89

This instrument prepared by: RICHARD L. PEARSE, JR., ESQ.
BONNER, HOGAN & PEARSE, P.A.
P. O. Box 1640
Clearwater, FL 33517

AND RETURN TO: PINELLAS COUNTY

FORM 124 FLORIDA Warranty Deed (From a Corp.)

O.R. 6334 PAGE 1843

executive line

86238268

Karen E. DeBlois
CLERK OF THE CIRCUIT COURT
PINELLAS COUNTY, FLORIDA

Oct 3 9 26 AM '86

This Indenture,

Made this 8th *day of* October *, A. D. 19* 86

Between BAUMGARDNER REALTY, INC.
a corporation existing under the laws of the State of Florida
having its principal place of business in the County of Pinellas *and*
State of Florida *party of the first part, and*

PINELLAS COUNTY, a political subdivision of the State of Florida
315 Court Street, Clearwater, Florida 33516

of the County of Pinellas *and State of* Florida
party of the second part,

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* ----------TEN AND 00/100---------- *Dollars, to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part forever, the following described land, situate, lying and being in the County of* Pinellas *, State of Florida, to wit:*

The East 157.5 Ft. of the South 400 Ft. of the North 410 Ft. of the East 275 Ft. of the Northwest 1/4 of the Southwest 1/4 of Section 9, Township 29 South, Range 16 East, LESS existing right-of-way as shown on the McMullen-Booth Road Maintained Right-of-Way Map as recorded in Road Plat Book B, Page 61, Public Records of Pinellas County, Florida, LESS right-of-way per O. R. 3461, Pages 791 and 792, Public Records of Pinellas County Florida.

THIS DEED IS GIVEN BY GRANTOR TO THE COUNTY OF PINELLAS UNDER THREAT OF AND IN LIEU OF THE CONDEMNATION BY GRANTEE OF THE REAL ESTATE DESCRIBED HEREIN, AND NO FLORIDA DOCUMENTARY STAMP TAX IS PAYABLE ON ACCOUNT OF THIS TRANSACTION, IN ACCORDANCE WITH THE PROVISIONS OF FLORIDA ADMINISTRATIVE CODE RULE 12 B-4.14(15)(b).

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, *the said party of the first part has caused these presents to be signed in its name by its President, and its corporate seal to be affixed, attested by its ~~Secretary~~ the day and year above written.*

(*Corporate Seal*)

BAUMGARDNER REALTY, INC.

Attest: ~~Secretary~~

By _____ *President.*

Signed, Sealed and Delivered in Our Presence:

_____

Linda A. Wilson

State of Florida

County of Pinellas

I Hereby Certify, *That on this* 8th *day of* October *A. D. 19* 86, *before me personally appeared* AARON R. FODIMAN ~~and~~ *President* ~~respectively of~~ BAUMGARDNER REALTY, INC. *, a corporation under the laws of the State of* Florida *, to me known to be the person described in and who executed the foregoing conveyance to* PINELLAS COUNTY, a political subdivision of the State of Florida *and severally acknowledged the execution thereof to be ~~their~~ his free act and deed as such officers, for the uses and purposes therein mentioned; and that he affixed thereto the official seal of said corporation, and the said instrument is the act and deed of said corporation.*

Witness *my signature and official seal at* Clearwater *in the County of* Pinellas *and State of Florida, the day and year last aforesaid.*

Linda A. Wilson
Notary Public
My Commission Expires 5/21/89

This instrument prepared by: RICHARD L. PEARSE, JR., ESQ.
BONNER, HOGAN & PEARSE, P.A.
P. O. Box 1640
Clearwater, FL 33517

AND RETURN TO:
PINELLAS

FORM 106 WARRANTY DEED-Statutory Form 88055807 THIS INSTRUMENT PREPARED BY (AND Mail to)
TIMOTHY A. JOHNSON JR.
JOHNSON, BLAKELY, POPE, BOKOR, RUPPEL & BURNS, P.A.
executive line Post Office Box 1368
Clearwater, Florida 34617

This Indenture,

OR6698PG0072

10.50
10 725.00 (The terms "grantor" and "grantee" herein shall be construed to include all genders and singular or plural as the context requires.)

10 735.50 MP

Made this 10th day of March 19 88 Between
COOPER'S POINT PARTNERS, LTD., a Florida limited partnership,

of the County of Pinellas, State of Florida, grantor, and
CITY OF CLEARWATER, FLORIDA, a municipal corporation, as to an undivided one-third (1/3rd) interest, and PINELLAS COUNTY, FLORIDA, a political subdivision of the State of Florida, as to an undivided two-thirds (2/3rds) interest, as tenants in common,
whose post-office address is 315 Court Street, Clearwater, Attn: General Services
of the County of Pinellas, State of Florida 34616, grantee,

Witnesseth: That said grantor, for and in consideration of the sum of TEN AND NO/100---------- Dollars, and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee's heirs, successors and assigns forever, the following described land, situate, lying and being in PINELLAS County, Florida, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Subject to easements, reservations and restrictions of record, if any, which are specifically not reimposed or extended hereby, and to taxes for the year 1988 and all subsequent years.

No warranty of title is made to any submerged lands conveyed on even date herewith.

Documentary Tax Pd. $10,725.00
$..... Intangible Tax Pd.
Karleen F. DeBlaker, Clerk, Pinellas County
By ..... Deputy Clerk

MAR 10 5 43 PM '88

19 19989182 74 1. 10HCCU
40 10.50
41 10,725.00
TOTAL 10,735.50 CHK

and said grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

In Witness Whereof, Grantor has hereunto set grantor's hand and seal the day and year first above written.
Signed, sealed and delivered in our presence:

COOPER'S POINT PARTNERS, LTD., a (Seal)
Florida limited partnership

PARCEL NO. 1

Government Lot 4, Section 10, Township 29 South, Range 16 East; that part of the Southeast 1/4 of the Southeast 1/4 of Section 9, Township 29 South, Range 16 East, which is Southeasterly of the mean high water line abutting Bayshore Boulevard.

AND

Government Lot 1, Section 15, Township 29 South, Range 16 East, less that part South of an Easterly projection of the North line of Government Lot 4 in Section 16, Township 29 South, Range 16 East, which projection is extended to the deep water channel in Tampa Bay;

All the above being in Pinellas County, Florida.

PARCEL NO. 2

Government Lot 3, Section 10, Township 29 South, Range 16 East, Pinellas County, Florida.

PARCEL NOS. 1 AND 2 MAY ALSO BE DESCRIBED AS FOLLOWS:

A parcel of land located in Sections 9, 10, and 15, Township 29 South, Range 16 East, Pinellas County, Florida, being more particularly described as follows:

Begin at the Southeast corner of said Section 9; Run thence N.89°29'33"W., along the South boundary of said Section 9, a distance of 1316.80 feet to the Southwest corner of the Southeast 1/4 of the Southeast 1/4 of said Section 9; thence N.00°00'59"E., along the West boundary of the Southeast 1/4 of the Southeast 1/4 of said Section 9 to a point on the mean high water line of Cooper's Bayou adjacent to Bayshore Boulevard; thence Northeasterly along the mean high water line of said Cooper's Bayou to a point on the North boundary of the Southeast 1/4 of the Southeast 1/4 of said Section 9; thence S.89°27'02"E., along the North boundary of the Southeast 1/4 of the Southeast 1/4 of said Section 9 to the Northeast corner of the Southeast 1/4 of the Southeast 1/4 of said Section 9, also being the Southwest corner of Government Lot 3 of said Section 10; thence N.00°01'36"E., along the West boundary of said Government Lot 3, a distance of 1329.40 feet to the Northwest corner of Government Lot 3 of said Section 10; thence East along the North boundary of said Government Lot 3 to a point on the mean high water line on the Northwesterly shore of Cooper's Point on Cooper's Bayou; thence continue along the North boundary of said Government Lot 3 to a point on the mean high water line on the Northeasterly shore of Cooper's Point on Old Tampa Bay; thence Southerly along the mean high water line of said Old Tampa Bay to a point on the Easterly projection of the North boundary of Government Lot 4 of Section 16, Township 29 South, Range 16 East, Pinellas County, Florida; thence N.89°32'08"W., along the North boundary of the projection of said Government Lot 4, to a point on the West boundary of said Section 15; thence N.00°01'38"E., along the West boundary of said Section 15 a distance of 1320.27 feet to the Point of Beginning.

(the "Property")

PARCEL NO. 2

Government Lot 3, Section 10, Township 29 South, Range 16 East, Pinellas County Florida.

PARCEL NOS. 1 AND 2 MAY ALSO BE DESCRIBED AS FOLLOWS:

A parcel of land located in Sections 9, 10, and 15, Township 29 South, Range 16 East, Pinellas County, Florida, being more particularly described as follows:

Begin at the Southeast corner of said Section 9; Run thence N.89°29'53"W., along the South boundary of said Section 9, a distance of 1316.80 feet to the Southwest corner of the Southeast 1/4 of the Southeast 1/4 of said Section 9; thence N.00°00'59"E., along the West boundary of the Southeast 1/4 of the Southeast 1/4 of said Section 9 to a point on the mean high water line of Cooper's Bayou adjacent to Bayshore Boulevard; thence Northeasterly along the mean high water line of said Cooper's Bayou to a point on the North boundary of the Southeast 1/4 of the Southeast 1/4 of said Section 9; thence S.89°27'02"E., along the North boundary of the Southeast 1/4 of the Southeast 1/4 of said Section 9 to the Northeast corner of the Southeast 1/4 of the Southeast 1/4 of said Section 9, also being the Southwest corner of Government Lot 3 of said Section 10; thence N.00°01'56"E., along the West boundary of said Government Lot 3, a distance of 1329.40 feet to the Northwest corner of Government Lot 3 of said Section 10; thence East along the North boundary of said Government Lot 3 to a point on the mean high water line on the Northwesterly shore of Cooper's Point on Cooper's Bayou; thence continue along the North boundary of said Government Lot 3 to a point on the mean high water line on the Northeasterly shore of Cooper's Point on Old Tampa Bay; thence Southerly along the mean high water line of said Old Tampa Bay to a point on the Easterly projection of the North boundary of Government Lot 4 of Section 16, Township 29 South, Range 16 East, Pinellas County, Florida; thence N.89°32'08"W., along the North boundary of the projection of said Government Lot 4, to a point on the West boundary of said Section 15; thence N.00°01'38"E., along the West boundary of said Section 15 a distance of 1320.27 feet to the Point of Beginning.

(the "Property")

FORM 100 [illegible] QUIT CLAIM DEED 88055808 OR6698PG0074

executive line

This Indenture

Whenever used herein, the term "party" shall include the heirs, personal representatives, successors and/or assigns of the respective parties hereto, the use of the singular number shall include the plural, and the plural the singular, the use of any gender shall include all genders, and, if used, the term "note" shall include all the notes herein described if more than one.

Made this 10th day of March A. D. 1988

Between COOPER'S POINT PARTNERS, LTD., a Florida limited partnership,

of the County of Pinellas and State of Florida party of the first part, and CITY OF CLEARWATER, FLORIDA, a municipal corporation, as to an undivided one-third (1/3rd) interest, and PINELLAS COUNTY, FLORIDA, a political subdivision of the State of Florida, as to an undivided two-thirds (2/3rds) interest, as tenants in common whose address is: 315 Court Street, Clearwater, Attn: Gen. Services of the County of Pinellas and State of Florida 34616 , party of the second part,

Witnesseth, *that the said party of the first part, for and in consideration of the sum of* TEN AND NO/100 ($10.00)—— *Dollars, in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has remised, released and quitclaimed, and by these presents does remise, release and quitclaim unto the said party of the second part all the right, title, interest claim and demand which the said party of the first part has in and to the following described lot , piece or parcel of land, situate lying and being in the County of* Pinellas *State of Florida, to wit:*

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF.

THIS INSTRUMENT PREPARED BY: TIMOTHY A. JOHNSON, JR. JOHNSON, BLAKELY, POPE, BOKOR, RUPPEL & BURNS, P.A. Post Office Box 1368 Clearwater, Florida 33517

Return To:

Documentary Tax Pd. $ [illegible] Intangible Tax Pd. Karleen F. DeBlaker, Clerk, Pinellas County

Karleen F. DeBlaker

[illegible] PINELLAS COUNTY [illegible]

MAR 10 5 43 PM '88

14 14989183 74 1. 10.00

40 10.50

41 0.55

TOTAL 11.05 CHK

To Have and to Hold *the same, together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, interest and claim whatsoever of the said party of the first part, either in law or equity, to the only proper use, benefit and behoof of the said party of the second part.*

In Witness Whereof; *the said party of the first part has hereunto set his hand and seal the day and year first above written.*

Signed, Sealed and Delivered in Our Presence:

[illegible]

Jayne E. Sears

COOPER'S POINT PARTNERS, LTD., a Florida limited partnership, BY: Sembler Equities, Inc., a Florida corporation, its general partner

BY: [illegible] L.S.

GREGORY S. SEMBLER

VICE PRESIDENT

State of Florida,

County of PINELLAS

I HEREBY CERTIFY, *That on this day personally appeared before me, an officer duly authorized to administer oaths and take acknowledgments,* GREGORY S. SEMBLER, as Vice President of Sembler Equities, Inc., a Florida corporation, general partner of COOPER'S POINT PARTNERS, LTD., a Florida limited partnership,

All the right, title, interest, claim and demand which Seller has in and to the ditch and ditch rights, reservoir and reservoir rights, stock and other interest in irrigation or ditch companies, and all water and water rights including all submerged lands under the waters of Tampa Bay whatsoever which Seller may own, hold or be entitled to in the following Sections, situate, lying and being in the County of Pinellas, State of Florida, to wit:

South 1/2 of the North 1/2 of Section 10, Township 29 South, Range 16 East;

South 1/2 of Section 10, Township 29 South, Range 16 East:

North 1/2 of the North 1/2 of Section 15, Township 29 South, Range 16 East; and

That part of the Southeast 1/4 of the Southeast 1/4 of Section 9, Township 29 South, Range 16 East; which is Southeasterly of the mean high water line abutting Bayshore Boulevard.

AND

Easement Tract A

That part of Government Lot 4 in the Northeast 1/4 of Section 16, Township 29 South, Range 16 East, in Pinellas County, Florida, lying 12.5 feet on either side of a line described as follows: Begin at the Northeast corner of said Government Lot 4, and run thence along the East line of the said Lot 4, South 00° 02' 42" West for a distance of 216.29 feet to the POINT OF BEGINNING; thence run South 41° 29' 04" West for 35.70 feet; thence along the arc of a curve to the right having a radius of 50.00 feet, delta 15° 49' 30.6", an arc length of 13.81 feet, a chord length of 13.77 feet, and a chord bearing South 49° 23' 49.3" West; thence South 57° 18' 34.6" West for 90.04 feet; thence along the arc of a curve to the left having a radius of 50.00 feet, delta 15° 49' 30.6", an arc length of 13.81 feet, a chord length of 13.77 feet, and a chord bearing South 49° 23' 49.3" West; thence South 41° 29' 04" West for 119.14 feet; thence along the arc of a curve to the left having a radius of 50.00 feet, delta 08° 56' 56", an arc length of 7.81 feet, a chord length of 7.80 feet, and a chord bearing South 37° 00' 36" West; thence South 32° 32' 08" West for 174.39 feet; thence along the arc of a curve to the right having a radius of 50.00 feet, delta 08° 56' 56", an arc length of 7.81 feet, a chord length of 7.80 feet, and a chord bearing South 37° 00' 36" West; thence South 41° 29' 04" West for 450.02 feet to the POINT OF ENDING.

AND

Easement Tract B

That part of the Northwest 1/4 of Section 15, Township 29 South, Range 16 East, in Pinellas County, Florida, lying 12.5 feet on either side of a line described as follows: Begin at the Northeast corner of Government Lot 4 in the Northeast 1/4 of Section 16, Township 29 South, Range 16 East, and run thence along the East line of the said Lot 4, South 00° 02' 42" West for a distance of 216.29 feet to the POINT OF BEGINNING; thence run North 22° 36' 56" East, 234 feet to a point on the easterly projection of the north line of Government Lot 4 and the POINT OF ENDING.

PINELLAS COUNTY FLA.
INST # 90-149936

*** OFFICIAL RECORDS ***
BOOK 7293 PAGE 487

Warranty Deed

THIS INDENTURE, Made this 14th day of July, A.D. 19 89 BETWEEN

K. B. Kimball

of the County of Hawaii, State of Hawaii, party of the first part, and

Joyce S. Kimball whose MAILING ADDRESS IS 1702 River Rd Jacksonville, FL 32207

of the County of Duval, State of Florida, party of the second part,

WITNESSETH: That the said party of the first part, for and in consideration of the sum of Ten Dollars, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part, her heirs and assigns forever, the following described land, situate, lying and being in the County of Pinellas, State of Florida, to wit:

The South East Quarter (SE¼) of South West Quarter (SW¼) of South East Quarter (SE¼), Section 9, Township 29, Range 16 East according to map or plat thereof on file and of record in the Office of the Clerk of the Circuit Court in and for Pinellas County, Florida.

PREPARED BY/RETURN TO: Joyce S. Kimball 1702 River Rd Jacksonville, FL 32207

Documentary Tax Pd $ 4.40 0039102 SCC 06-04-90 14:25:08

	RECORDING	1	$6.00
	DOC STAMPS	2	$4.40
By	Deputy Clerk	TOTAL:	$10.40
		CASH AMT. TENDERED:	$20.40
		CHANGE:	$10.00

And the said party of the first part does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the said party of the first part has hereunto set his hand and seal the day and year first above written.

SIGNED AND SEALED IN OUR PRESENCE:

K. B. Kimball (SEAL)

(SEAL)

(SEAL)

(SEAL)

STATE OF FLORIDA
COUNTY OF Duval } ss.

Before me personally appeared K. B. Kimball

and ..... to me well known and known to me to be the individual described in and who executed the foregoing instrument, and acknowledged to and before me that he executed the same for the purposes therein expressed.

WITNESS my hand and official seal this 14th day of July 1989, at Duval County and State aforesaid.

Notary Public in and for the County and State Aforesaid.

My commission expires: NOTARY PUBLIC, STATE OF FLORIDA MY COMMISSION EXPIRES SEPT. 23, 1991 BONDED THRU NOTARY PUBLIC UNDERWRITERS

KARLEEN F. DEBLAKER, CLERK
JUN 4, 1990 5:01PM

RECORDING
REC 1500
DS 910.00
INT
FEES
MTF
PIC
REV
TOTAL 915.00
9/12

910.00
Documentary Tax Pd.
Intangible Tax Pd.
Karleen F. De Blaker, Clerk, Pinellas County
By ______ Deputy Clerk

Parcel No.: 09/29/16/00000/310/01000
09/29/16/20808/000/0170
Grantee's Tax I.D. No.: ____________.

FEE SIMPLE DEED

THIS INDENTURE, made this 9th day of December, 1992, between KENTUCKY CENTRAL LIFE INSURANCE COMPANY, a Kentucky corporation, whose address is 300 West Vine Street, Lexington, Kentucky 40507 ("Grantor") and KAPOK PAVILION I, LTD., a Florida limited partnership, whose address is 11505 Carrollwood Drive, Tampa, Florida 33618, ("Grantee").

WITNESSETH: That Grantor, for and in consideration of the sum of Ten Dollars ($10.00), and other good and valuable consideration, to it in hand paid by the Grantee, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, remised, released, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto Grantee, and his heirs and assigns forever, all that certain parcel of land situate, lying and being in the County of Pinellas and State of Florida, and more particularly described on Exhibit A attached hereto (the "Land").

TOGETHER with all the tenements, hereditaments and appurtenances, with every privilege, right, title, interest and estate, reversion, remainder and easement thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in fee simple forever.

IN WITNESS WHEREOF, Grantor has caused these presents to be executed in its name by its proper officer the day and year first above-written.

Signed, sealed and delivered in the presence of:

____
Name: ________________

____
Name: ________________

KENTUCKY CENTRAL LIFE INSURANCE COMPANY, a Kentucky corporation

By: ______________________
J.F. Rampulla, III, as its Vice President

Address: 300 West Vine Street
Lexington, KY 40507

(NOTARY ACKNOWLEDGEMENT ON ATTACHED PAGE)

Prepared by and return to:
[illegible]
P.O. Box 3433
Tampa, FL 33601

KARLEEN F. DEBLAKER, CLERK
RECORD VERIFIED BY:

EXHIBIT "A"

LEGAL DESCRIPTION: Parcel I

LOTS 17, 18, 31 through 36, inclusive, 44 through 46, inclusive, 51 and a portion of 52, DEL ORO GARDENS, as recorded in Plat Book 45, page 74, of the Public Records of Pinellas County, Florida, lying in Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, said portion of LOT 52 being more particularly described as follows:

Commence at the Southwest corner of said LOT 52 as a Point of Beginning, thence N 40°18'44"E, 172.05 feet to a point on the South right-of-way line of San Jose Street, thence along a curve, (said curve having a radius of 45 feet, a chord bearing of N 48°42'04"W, and a chord distance of 1.55 feet), 1.55 feet through a central angle of 01°58'25", thence N 89°22'10"W, 109.74 feet to a point on the West line of said LOT 52, thence S 00°10'42"W, along said West line, 133.42 feet to the Point of Beginning.

LESS that part of said LOT 17, deeded for Right-of-Way in O.R. Book 6334 page 1844, Pinellas County Records.

TOGETHER WITH:

The West One Half of the Northwest Quarter (N.W. ¼) of the Northeast Quarter (N.E.¼) of the Southwest Quarter (S.W. ¼), Less the North 200 feet thereof, Section 9, Township 29 South, Range 16 East, Pinellas County, Florida, Less Road Right-of-way.

[illegible] 13:32:13
[illegible]
[illegible] 1 $15.00
[illegible] 1 $100.00
[illegible] $115.00
[illegible] TENDERED: $115.00
[illegible] CHANGE: $0.00

Right-of-Way Affidavits of Maintenance

Exhibit 5.7

71 0 0 0 6 4 9

OR 3461 PAGE 791

MAINTENANCE AFFIDAVIT

RECORDED
PINELLAS CO. FLORIDA
CLERK CIRCUIT COURT

JAN 5 10 55 AM '71

Section 15130

State Road No. 593

Pinellas COUNTY

A F F I D A V I T

STATE OF FLORIDA

COUNTY OF Pinellas

Before me, the undersigned authority, personally appeared L. R. Slone,

whose address is 7250 10th Avenue North, St. Petersburg, Florida,

who after being sworn, deposes and says:

That he has been employed by the Florida Department of Transportation (formerly the State Road Department) for the past 16 years, and is now employed by said Florida Department of Transportation as Highway Maintenance Supervisor I.

The deponent knows and verily says that the Florida Department of Transportation (formerly the State Road Department) through its employees and contractors, has maintained State Road No. 593, in Pinellas County for the continuous widths as measured at right angles to the road centerline, viz:

From Station	To Station	Width Maintained	Location with Reference to Existing Road Cent.
M. P. 0.750	M.P. 0.950	34'	East of Centerline
M.P. 0.750	M.P. 0.950	29'	West of Centerline
M.P. 0.000	at the intersection of SR 60 and SR 593		
M.P. 1.000	at the East-West half section line, Section 9, Township 29 South, Range 16 East		

and that such maintenance by said Florida Department of Transportation (formerly the State Road Department) has been continuous for the period of time from August, 1955, to December, 1970.

L. R. Slone

DEPONENT

71 0 0 0 6 5 0

OR 3461 PAGE 792

MAINTENANCE AFFIDAVIT

RECORDED PINELLAS CO. FLORIDA
CLERK CIRCUIT COURT

JAN 5 10 55 AM '71

Section 15130

State Road No. 593

Pinellas COUNTY

A F F I D A V I T

STATE OF FLORIDA

COUNTY OF Pinellas

Before me, the undersigned authority, personally appeared W. W. Dasher, whose address is 3601 63rd Way North, St. Petersburg, Florida, who after being sworn, deposes and says:

That he has been employed by the Florida Department of Transportation (formerly the State Road Department) for the past 18 years, and is now employed by said Florida Department of Transportation as Assistant Maintenance Engineer,

The deponent knows and verily says that the Florida Department of Transportation (formerly the State Road Department) through its employees and contractors, has maintained State Road No. 593, in Pinellas County for the continuous widths as measured at right angles to the road centerline, viz:

From Station	To Station	Width Maintained	Location with Reference to Existing Road Cent.
M.P. 0.750	M.P. 0.950	34'	East of Centerline
M.P. 0.750	M.P. 0.950	29'	West of Centerline
M.P. 0.000	at the intersection of SR 60 and SR 593		
M.P. 1.000	at the East-West half section line, Section 9, Township 29 South, Range 16 East		

and that such maintenance by said Florida Department of Transportation (formerly the State Road Department) has been continuous for the period of time from August, 1955, to December, 1970.

Appendix A

Basic Map Compilation
Steps to Compiling an Ownership Map

1.) Locate section corners
    a. use medium with 1000 ft grid ticks
    b. if no grid ticks use edge of paper as a guide for true North
    c. start at the lower left corner of the paper

2.) Draw section lines
    a. use state plane coordinates
    b. use bearings and distances if available

3.) Break down section into quarters
    a. determine how much of the section is going to be drafted:
       will this be a full section or a half section map?
    b. create 40 Ac and 10 Ac lines

4.) Locate Subdivision perimeters
    a. Label and/or number for reference using green pencil

5.) Draw rights-of-way in Subdivisions

6.) Plot out deeds of record for metes and bounds
    a. add annotation/acreage

7.) Using right-of-way plans for any major roads draw in recorded road takes.

8.) Draw lot lines in subdivisions/add annotation

9.) Draw in water lines using aerial photos

10.) Draw in any recorded vacations

11.) Draw in any easements if needed

12.) Add annotation where needed.

Assessment maps are composed of both physical and non-physical information.

Physical information includes streets, roads, streams, fences, buildings, trees, and any other natural or cultural features that can be located and seen on the ground.

Non-physical information includes property lines, road and railroad rights-of-way, city limits, county and state lines, subdivision lines and boundaries, and taxing district boundaries.

Assessment maps also contain identification information and measurement.

Identification includes parcel numbers, subdivision lot numbers, and the names of streets, roads, railroads, natural features, cultural features, subdivisions, and administrative jurisdicitions.

Measurement includes property line dimensions, parcel acreages, and rights-of-way widths.

The assessment mapping base provides a physical framework on which non-physical information can be plotted and displayed.

The base map thus provides the skeleton on which all other data are compiled, a complete, graphic (and visual if a photo base) record of all real property (ex: taxroll) in the jurisdiction.

Basic Map Compilation
Coordinate List

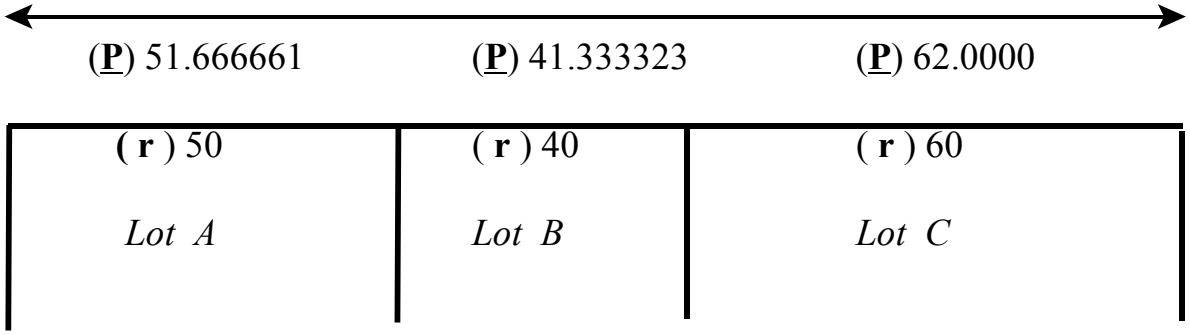
1. Y = 1323532.43 X = 272548.93
2. Y = 1323634.25 X = 274774.43
3. Y = 1323546.94 X = 271223.96
4. Y = 1322474.86 X = 270275.98
5. Y = 1322203.91 X = 272077.23
6. Y = 1321594.60 X = 271217.34
7. Y = 1321582.83 X = 272505.89
8. Y = 1322848.15 X = 274427.86
9. Y = 1322595.54 X = 273824.69

Proportioning

To determine how much each lot should increase or decrease when proportioning a subdivision:

Divide the **recorded lot size (r)** by the **Recorded overall width (R)** to get a **factor (f).** Then multiply the **factor (f)** by the Measured overall width (MW) to solve for the **Proportioned lot size** (**P**)

(MW) = 155
(R) = 150



Lot A (**r**) 50
Recorded Width (**R**) 150 = .3333333 (**f**)

.3333333 **(f)** x 155 (MW) = 51.666661 **(P)**
factor overall width Proportioned lot size

Lot B (**r**) 40
Recorded Width (**R**) 150 = .2666666 (**f**)

.2666666 (**f**) x 155 (MW) = 41.333323 **(P)**
factor overall width Proportioned lot size

Lot C (**r**) 60
Recorded Width (**R**) 150 = .4000000 (**f**)

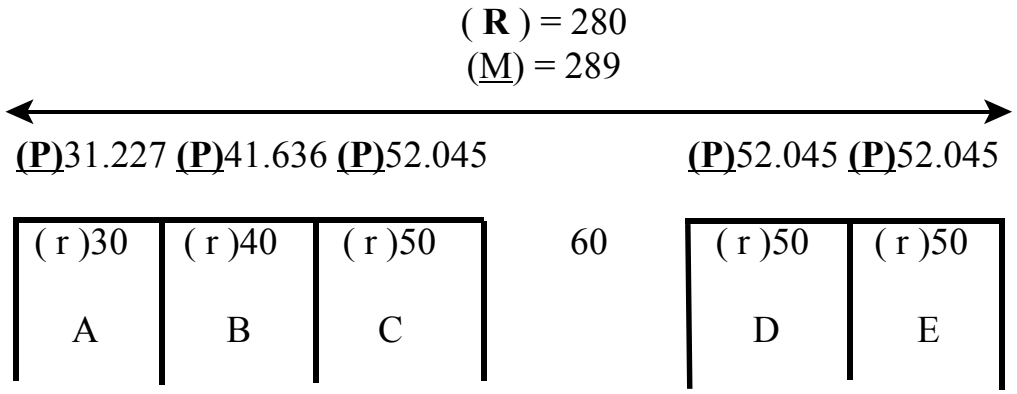
.4000000 (**f**) x 155 (MW) = 62.00000 **(P)**
factor overall width Proportioned lot size

To prove: factors **(f)** added together will total **1** (one). **(P)** lot sizes will total measured o/a (MW) width.

****

To proportion lots within a subdivision **without** factoring in the right-of-ways the following formula is to be used:

Subtract the width of the right-of -way (R/W) from the measured overall width (MW) and the Recorded overall width (**R**) to get the adjusted overall width (**A**).



(**R**) 280	-	(R/W) 60	=	(**A**R) 220
recorded o/a width		right-of-way		adjusted recorded o/a width
(M) 289	-	(R/W) 60	=	(AM) 229
measured o/a width		right-of-way		adjusted measured o/a width

Then use the previous method to solve for the factor and proportioned lot sizes.

Sample solution:

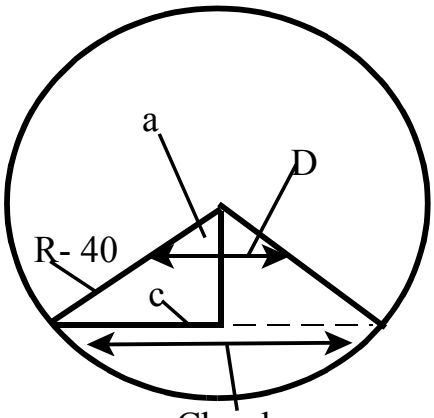
Lot A (**r**) 30

adjusted o/a recorded width (**A**R) 220 = .1363636 (**f**) factor

.1363636 (f)	x	229(AM)	=	31.227264 (P)
factor		adjusted measured o/a width		Proportioned lot size

To find **Delta (Central Angle)** when Chord Length and Radius are known:

Find **Angle D**: Chord length: 60.27 Radius: 40



D = Delta (Central Angle)
a = ½ Central Angle
R = Radius length
c = ½ Chord length

Formula: $\frac{c}{R}$ = Sine a

$\frac{30.135\ (c)}{40\ (R)}$ = .75337 (Sine a)

[Use calculator or Formula Book]

Angle a = 48 deg 53' 0"

(Central Angle) **D = 97 deg 46' 0"**

To find **Arc Length** when Central Angle (Delta) and Radius are known:

Central Angle: 97 deg 46' 0 " Radius: 40

Formula: $\frac{Pi \times d \times D}{360}$

Pi = 3.1416
d = Diameter (2 x Radius)
D = Central Angle (Delta)

You will need to convert the Central Angle (97deg 46' 0") to a whole number:

Divide # of seconds by 3600
Divide # of minutes by 60
Add to number of degrees

Ex: $\frac{46}{60}$ = .7666

+ 97.0000

97.7666

$$\frac{3.1416 \times 80 \times 97.7666}{360} = 68.25 \text{ (Arc Length)}$$

Appendix B

Addition of Angular Measurements
Solutions:

1.

72	25	49
34	59	59
106	84	108
	+1	-60
106	85	48
+1	-60	
107	**25**	**48**

2.

41	12	26
62	16	36
103	28	62
	+1	-60
103	**29**	**02**

3.

22	58	59
46	56	58
68	114	117
	+1	-60
68	115	57
+1	-60	
69	**55**	**57**

4.

39	45	24
68	45	58
107	90	82
	+1	-60
107	91	22
+ 1	-60	
108	**31**	**22**

5.

33	22	44
28	10	02
61	**32**	**46**

6.

44	25	36
46	56	58
90	81	94
	+1	-60
90	82	34
+1	-60	
91	**22**	**34**

7.

39	45	24
45	34	24
84	79	48
+1	-60	
85	**19**	**48**

8.

56	05	14
10	12	10
66	**17**	**24**

Conversion of Angles to Bearings
Solutions:

1.

132 43 55
78 22 32
54 21 23

Subtract one from the other
Ans: N54˚ 21' 23"E

2.

111 22 14
36 24 56
74 57 18

Subtract one from the other
Ans: S74˚ 57' 18"E

3.

104 25 36
72 32 12
31 53 24

Subtract one from the other
Ans: S31˚ 53' 24"E

4.

46 17 38
35 21 55
81 38 93
+1 -60
81 39 33

Add together
(Falls in same quadrant)
Ans: S89˚ 39' 33"E

5.

76 11 54
48 58 02
124 69 56
+1 -60
125 09 56

Add together

179 59 60
125 09 56
54 50 04

Subtract from 180˚
Ans: N54˚ 50' 04"E

Conversion of Bearings to Angles
Solutions:

1.

179 59 60	Subtract angle in SE quadrant
78 11 35	from 180˚
101 48 35	
101 48 35	
41 23 23	Add angles together
142 71 48	
+1 -60	
143 11 48	**Ans: 143˚ 11' 48"**

2A.

36 01 02	Add together
56 43 22	
92 44 24	**Ang A: 92˚ 44' 24"**

2B.

56 43 22	Add together
22 11 34	
78 54 56	
359 59 60	Subtract from # of degrees in a circle
78 54 56	
281 05 04	**Ang B: 281˚ 05' 04"**

3.

1) **93˚ 46' 06"**
2) **136˚ 14' 05"**
3) **137˚ 02' 48"**
4) **103˚ 57' 43"**
5) **141˚ 22' 40"**
6) **107˚ 36' 38"**

Subtraction of Angular Measurements
Solutions:

1.

48 02 12
-1 +60
48 01 72
-1 +60
47 61 72
-29 45 32
18 16 40

2.

59 12 03
26 22 32
32 49 31

3.

79 12 58
25 45 58
53 27 00

4.

42 18 36
26 22 18
15 56 18

5.

78 01 02
58 01 03
19 59 59

6.

89 59 60
42 25 24
47 34 24

7.

78 12 31
32 45 10
45 27 21

8.

95 31 12
56 56 56
38 34 16

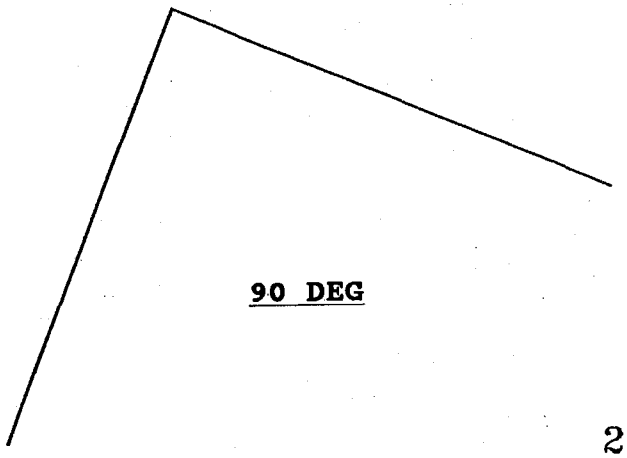
9.

24 24 02
10 33 45
13 50 17

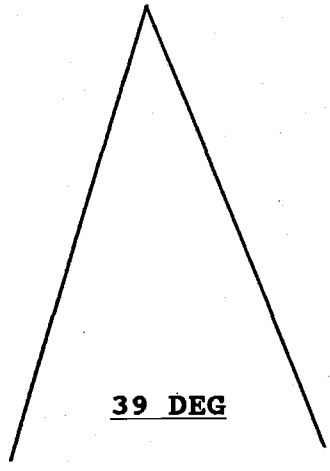
10.

112 10 43
01 22 43
110 48 00

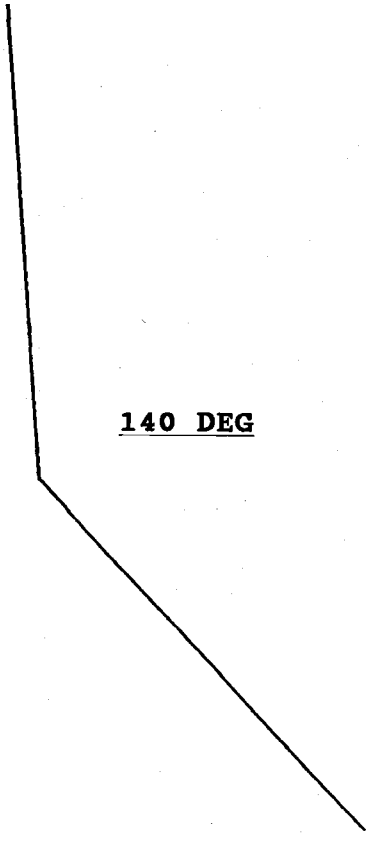
SOLUTIONS TO INTERIOR ANGLES

1. 

90 DEG

2. 

39 DEG

3. 

140 DEG

4. 

10 DEG

Basic Map Compilation
Coordinate List

1. Y = 1323532.43 X = 272548.93
   Del Oro Groves - SW cor Lot 300

2. Y = 1323634.25 X = 274774.43
   Del Oro Groves - NW cor Lot 365

3. Y = 1323546.94 X = 271223.96
   Del Oro Gardens - NW cor Lot 33

4. Y = 1322474.86 X = 270275.98
   Kapok Terrace First Add - SW cor Lot1 Blk N

5. Y = 1322203.91 X = 272077.23
   Bordeaux Estates - NE cor of "Park"

6. Y = 1321594.60 X = 271217.34
   Bordeaux Estates - SW cor Lot 23

7. Y = 1321582.83 X = 272505.89
   Bordeaux Estates - SE cor Lot 4

8. Y = 1322848.15 X = 274427.86
   Del Oro Place - NE cor Lot 4

9. Y = 1322595.54 X = 273824.69
   Del Oro Place - SW cor Lot 1

Formulas

Right Triangles

Pythagorean Theorem

$a^2 + b^2 = c^2$ Solve for hypotenuse:

$c^2 - a^2 = b^2$ $c = \sqrt{(a^2 + b^2)}$

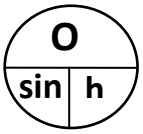
$c^2 - b^2 = a^2$ Solve for leg:

$a = \sqrt{(c^2 - b^2)}$

Sine

Sine =

opposite side ÷ hypotenuse



sine functions:

sine of an angle =

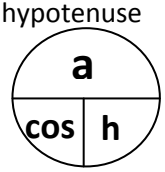
opposite side ÷ hypotenuse

opp. side = hypotenuse x sine of opp. angle

hypotenuse = opp. side ÷ sine of opp. angle

Cosine

Cosine = adjacent side ÷ hypotenuse



cosine functions:

cosine of an angle =

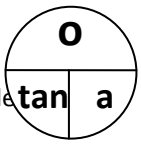
adjacent side ÷ hypotenuse

adj. side = hypotenuse x cosine of adj. angle

hypotenuse = adj. side ÷ cosine of adj.angle

Tangent

Tangent = opposite side ÷ adjacent side



tangent functions:

tangent of an angle =

opposite side ÷ adjacent side

opposite side =

adjacent side x tangent of an angle

adjacent side =

opposite side ÷ tangent of an angle

Coordinate System

Bearing formula:

$$(x_1 - x_2) \div (y_1 - y_2) = \tan \theta$$

Distance formula:

$$(x_1 - x_2)^2 + (y_1 - y_2)^2 = d^2$$

Areas

Trapezoid:

Area = ½ ($base_1$ + $base_2$) x height

Triangle:

Area = ½ (b x h)

Law of Sines

$$\frac{a}{\text{Sin A}} = \frac{b}{\text{Sin B}} = \frac{c}{\text{Sin C}}$$

$$a = b \times \frac{\text{Sin A}}{\text{Sin B}} \qquad a = c \times \frac{\text{Sin A}}{\text{Sin C}}$$

$$b = a \times \frac{\text{Sin B}}{\text{Sin A}} \qquad b = c \times \frac{\text{Sin B}}{\text{Sin C}}$$

$$c = a \times \frac{\text{Sin C}}{\text{Sin A}} \qquad c = b \times \frac{\text{Sin C}}{\text{Sin B}}$$

$$\text{Sin A} = \frac{a \times \text{Sin B}}{b} \qquad \text{Sin A} = \frac{a \times \text{Sin C}}{c}$$

$$\text{Sin B} = \frac{b \times \text{Sin A}}{a} \qquad \text{Sin B} = \frac{b \times \text{Sin C}}{c}$$

$$\text{Sin C} = \frac{c \times \text{Sin A}}{a} \qquad \text{Sin C} = \frac{c \times \text{Sin B}}{b}$$

Law of Cosines

$$c^2 = a^2 + b^2 - (2ab \cos C)$$

$$b^2 = a^2 + c^2 - (2ac \cos B)$$

$$a^2 = b^2 + c^2 - (2bc \cos A)$$

$$\cos A = \frac{(b^2 + c^2) - a^2}{2bc}$$

$$\cos B = \frac{(a^2 + c^2) - b^2}{2ac}$$

$$\cos C = \frac{(a^2 + b^2) - c^2}{2ab}$$

Curves

Radius

$$R = \frac{T(\text{angent length})}{\tan(\frac{1}{2}\ \Delta)} = \frac{180 \times \text{ArcL}}{\pi \times \Delta}$$

Degree of Curve

$$D_c = \frac{5729.58}{R}\ \text{(Hwy)} \qquad D_c = \frac{5729.65}{R}\ \text{(RR)}$$

Arc

$$\text{Arc} = \frac{100 \times \Delta}{Dc}$$

Arc = 100 x (DeltaΔ ÷ Dc)

Chord

chord = 2R x (sin ½ DeltaΔ)

Delta or Central Angle Δ

$$\text{delta}\Delta = \frac{\text{ArcL}}{R} \times 5729.58$$

Tangent Length

tangent = R x (tan ½ Δ)

Deflection Angle

Deflection angle = ½ DeltaΔ

Sector Area

Sector area = (πR^2) * (Δ ÷ 360)

Segment Area

Segment area =

$$\text{sector area} - \frac{R^2 * \sin \Delta}{2}$$

Fillet

Fillet = R x T – (πR^2) * (Δ ÷ 360)

Fillet = R x T – sector

PC Station =

PI station – tangent length

PT Station =

PC station + arc length