

**Mapping and Parcel
Identification
Standards of Practice**

8

Utah State Tax Commission

Property Tax Division

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MAPPING AND PARCEL IDENTIFICATION STANDARDS OF PRACTICE

Section VIII.I

General Information

Purpose

The principal responsibility of the assessor is to locate, inventory, and appraise all property within the jurisdiction. A complete set of ownership plats is necessary to perform this function. The creation and updating of ownership plats are the responsibility of the county recorder (Section 17-21-21), but become important to the county assessor and the State Tax Commission during the valuation (assessment) of real estate. Plat maps help determine the location of property, indicate the size and shape of each parcel, and its relationship to pertinent features affecting value.

Assessors are no longer required by statute to keep a book of ownership plats of the parcels within the county. The county recorder is required to "prepare copies of ownership maps and plats" and to transmit these to the county assessor by January 30. (Section 17-21-22)

Scope

These standards of practice clarify the procedures of property identification and mapping for ad valorem taxation purposes.

Definitions

Ownership Plats

An ownership plat includes: graphic descriptions of parcels of land indicating their relative size and position to other properties, rivers, creeks, roads, and major geographic features. They are drawn to scale and delineate property dimensions and parcel serial number.

Parcel

A contiguous area of land described in a single description in a deed or as one of a number of lots on a plat, preferably in one general use, separately owned, and capable of being separately conveyed.

Geographic Information System (GIS)

Ownership plats and related tabular information stored and transferred in electronic format.

Automated Geographic Reference Center (AGRC)

The state agency charged by the legislature with the responsibility of coordinating government GIS data storage and transmission standards.

Section VIII.II Standards of Practice

Standard 8.1 Required Maps

8.1.0 Mapping System

A basic mapping system for ad valorem tax purposes should include the following components:

Ownership Plats (Cadastral Maps)

Ownership plats contain detailed information prepared at appropriate scales. Plats should clearly indicate property boundary lines, dimensions, and should include any other pertinent identifying criteria such as parcel numbers.

City or County Index Systems

This index uses entire city or county maps to show the location (plat book and page) of each individual ownership plat.

Subdivision Index

A subdivision index lists all recorded subdivisions. The index also contains an ownership plat reference page for each subdivision with subdivisions listed in both alphabetical and numerical order.

Electronic Mapping and Storage

Ownership plats may be maintained in a geographic information system (GIS). Related index systems and associated data may be maintained either in GIS or within an electronic database, so long as all information required by *Standard 8.1.1* is included.

8.1.1 Plat Content – Basic Information

Ownership plats shall contain the following:

- Boundaries of individual parcels—ownership plat parcel boundaries shall be located by utilizing the most recent conveyance of property for each parcel,
- Parcel dimensions and bearings when applicable,
- Names and boundaries of subdivisions, plats and surveys, including lot, block and survey numbers,
- County, township, range, section and government lot boundaries and numbers,
- Boundaries of political subdivisions, e.g., county lines, city limits, and service districts comprising the various tax areas and entities,
- Location and names of streets, highways, alleys, railroads, rivers, lakes, etc., that are a matter of public record,
- Parcel identification numbers,
- Date and source of the most recent plat change,

- The scale to which the plat is drawn,
- Coordinate-geometry traverse definitions derived from legal descriptions when plats are maintained in a GIS,
- Other basic plat information, including a plat number, title block, plat key, north arrow, (unless the top of the map is assumed to be north), keys to adjoining plats, and,
- Abstract information, such as vesting document numbers and dates.

8.1.2 Plat Content – Supplemental Information

Ideally, supplemental information should be recorded on overlays or in a computer database. This allows access to as much or as little data as required without changing the original plats. It also facilitates use of the map data by others. Ownership plats may contain:

- Names of recorded owners
- Parcel address
- Parcel acreage
- Location of streets, trails, streams, etc., that are not a matter of public record.

8.1.3 Plat Design

Ownership plats shall incorporate the following essential design:

Uniform Plat Sizes

A uniform size for ownership plats facilitates handling and storage. The accepted size for plats is 18" x 18". Plats should be drawn in a size adequate to show scales of 1" = 100' for quarter/quarter sections, 1" = 200' for quarter sections, and 1" = 400' for sections. Headings and title blocks must be included on the ownership plats.

Standard Plat Scales

The proper scale is one, which covers the largest possible area and at the same time shows the necessary detail. The size of the majority of the parcels in the area to be covered by a single plat and the lettering standards employed are determining factors in choosing plat scales. In general, large-scale plats should be used for urban areas and small-scale plats should be used for rural areas. Plat scales also should be easily convertible from feet to meters. The following are commonly used platting scales:

Urban areas: 1"=50', 1"=100', 1"=200'

Rural areas: 1"=400', 1"=800'

Exceptions to these scales are situations of multiple-section ownerships, e.g., federal and state land.

The following standards apply to ownership plats:

Standardized Plat Symbols, Lines, and Letters

The use of standardized symbols, lines, and letters is essential to maintaining useable plats.

Standardized Plat Layouts

Plat layout should be standardized containing a title heading, a plat key, and keys to adjoining plats.

Plat Boundaries

Streets and survey lines should be utilized as plat boundaries whenever possible. Plat boundaries should be drawn so parcel extensions between plats are minimized.

Recorded Plats of Subdivisions

Subdivisions shall be drawn on the ownership plats in a legible scale.

Plat Material

All ownership plats shall be produced on stable base, reproducible, polyester film. If film cannot be used, a drafting media that closely approximates the advantages of film shall be used. Additionally, ownership plats may be developed and maintained in a GIS capable of producing accurate hard-copy prints on a stable base. Back up copies of disks or tapes shall be stored off site.

Coordination of GIS Plat-Design Standards

To facilitate uniform plat design, counties shall conform to the current state plat standards. Counties utilizing GIS should also coordinate with AGRC for additional GIS uniformity.

8.1.4 Plat Maintenance

Ownership plats shall be continuously updated. A set of ownership plats represents a substantial capital investment, so regular and proper maintenance is critical. Plat maintenance involves recording description changes and making plat corrections. There should also be a plan for re-platting areas at a larger scale in order to satisfactorily depict new subdivisions.

Standard 8.2 Identification of Properties Being Assessed

8.2.0 Parcel Identification Systems

Proper identification of properties is essential to accurate valuation. 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 plats and individual property records requires all property files to be indexed using uniform parcel identifiers. Each parcel shall be assigned a unique identification number or code, as required for the permanent appraisal record. (R884-24P-37) The assessment roll and all other assessment files should be organized and filed according to the parcel identification number. These parcel identification numbers shall be used on all tax maps, property record cards, assessment and tax rolls, the notice of valuation and tax change, the property tax notice, and other property tax and land records.

8.2.1 Kinds of Parcel Numbers

It is important that the parcel numbering system allow the user to locate the parcel by means of the unique number. There are three kinds of numbering systems, which are suitable for this purpose.

Map-base

In a map-base system, the first number sequence is assigned to a map, the second number sequence to a block or other organized map division, and the last to the individual parcel. An alternative map-base system is called a book-page system. The first number sequence is assigned to a book of maps, the second number sequence to a map page within the book, and the third to a parcel on the map. See Appendix 8C for an example.

Government Survey

The government survey takes for a base the existing land survey system of townships and ranges. The numbering sequences correlate with sections, quarter sections and other such subdivisions as necessary until the last number sequence, which refers to the individual parcel. See Appendix 8D for an example.

Geographic Coordinate Code (Geocode)

The geocode system is typically used on a computerized (GIS) system where the approximate center (paracentroid) of each parcel is identified. The parcel is numbered based on its x (east-west) location and y (north-south) location. Although the geocode system is accurate and quick, the parcel numbers do not tie directly to any given map or block. See Appendix 8E for an example. When a GIS mapping system is utilized, coordination with the AGRC is required to facilitate uniformity, data transfer, numbering schemes and formats used in parcel identification.

8.2.2 Desirable Characteristics

Parcel identifiers should incorporate the following attributes: (1) uniqueness, (2) permanence, (3) simplicity, (4) ease of maintenance, (5) flexibility, and (6) reference to geographic location. Of these, uniqueness is most important.

Uniqueness

Uniqueness refers to a one-to-one relationship between a parcel and its identification number. An identification number shall be assigned to only one parcel.

Permanence

Parcel identifiers should be permanent and change only if the boundaries of the parcel change and a new parcel is created. However, in areas where there is extensive subdivision requiring re-platting, it may become necessary to assign new parcel identification numbers even though some parcel boundaries have not changed. Whenever a new parcel is created, it should be assigned a new parcel identification number.

Simplicity

Parcel identification numbers should be easy to understand and have as few digits as possible. A parcel identification number that is uncomplicated and easily understood will help reduce errors in its use.

Ease of Maintenance

The parcel identification system should be easy to maintain and should efficiently accommodate changes, such as subdivision or consolidation of parcels.

Flexibility

The parcel identification system should be reasonably flexible. It should be capable of serving a variety of uses and be convenient for both field and office operations.

Reference to Geographic Location

The parcel identification system based on geographic location makes it possible to locate a parcel using only the identifier. The identifier becomes an abbreviated legal description.

Standard 8.3 Assigning Parcel Identification Numbers

8.3.0 Assigning Numbers

The responsibility for assigning parcel identification numbers belongs with the county recorder. The recorder shall maintain a complete and accurate record of all information necessary to assign appropriate numbers. This information includes abstract, ownership, tax entities, tax areas and individual parcel legal descriptions.

8.3.1 Divisions and Combinations

When parcels are divided (split) or combined, new parcel numbers shall be assigned and old parcel numbers permanently retired.

8.3.2 Number Assignment

Responsibility for assigning new parcel numbers and eliminating old parcel numbers should be clearly identified and closely controlled within the recorder's office. Only a few individuals should have authority to assign or change parcel numbers. If changes are automated, access to the computer program should be limited.

8.3.3 Requiring Parcel Identification Numbers on Documents

To facilitate the abstracting of recorded documents, the county recorder may require that the parcel identification number(s) (tax serial number) appear on each document before it is accepted for recording, where appropriate. This requirement must be posted in a conspicuous place in the recorder's office. The parcel identification number may not be considered to be part of the legal description of the parcel, and may be located on the margin of the document. If the identification number is in error, it does not affect the validity of the document or the effectiveness of its recording. (Section 17-21-20)

Standard 8.4 Special Property Identification Considerations

8.4.0 Special Identification Considerations

In general, identification is a simple linking of a property identification number to a plat or to a legal description. However, the variations listed in this standard represent special problems in identifying real property.

8.4.1 Multiple Taxing Districts

If a property straddles two or more taxing areas within a county, each portion must be identified separately. Separate identification is necessary since each area has its own tax rate and will collect taxes only on the portion of the property within its boundaries. The system of identification must be designed to accommodate this circumstance.

8.4.2 Divided Interest

When land and improvements have separate owners, the separate interests also must be identified. The parcel identifier must indicate if a particular parcel consists solely of improvements, or if it is only the land beneath those improvements.

8.4.3 Undivided Interest

An undivided interest in a property consists of ownership of only a percentage of the property, yet without a physical division of that property. The identification system must clearly indicate partial ownership to limit possible confusion.

8.4.4 Common area parcels on a Plat

A parcel designated as common area on a plat may not be separately owned or conveyed independent of the other parcels created by the plat. For purposes of assessment, the ownership interest is to be divided equally among all parcels created by the plat, unless a different division of interest is indicated on the plat or an accompanying document. The ownership interest is considered to be included in the description of each instrument describing a parcel on the plat by its identifying plat number, even if the common area interest is not explicitly stated in the instrument. (Section 10-9-806.5)

8.4.5 Abandonment of Roads

When a highway, street or road is abandoned, the county recorder's office, upon an order executed by the proper authority, is to vest title to the vacated or abandoned highway, street or road to the adjoining record owners; one half of the width of the highway, street or road is to be assigned to each of the adjoining owners. [Section 72-5-105(2)]

- If a property description of an owner of record extends into the vacated or abandoned road, that portion is to be vested to the record owner as well as the additional property up to ½ of the width of the road.
- If a property description of an owner of record extends beyond ½ of the width of the road, that portion is to be vested to the recorded owner, with the remainder of the road vested to the other adjoining owner.

8.4.6 Other Special Considerations

Other special considerations to be identified include air rights, mining claims, and privilege tax properties. Assessors and recorders must develop the identification system so as to clearly distinguish such variations.

Standard 8.5 Property Identification Aids

8.5.0 Property Identification Aids

A number of aids are available to assist the assessor and recorder in identifying and describing property. Some are listed in this standard. Although these tools and methods will assist property tax administrators in their work, they are not intended to replace the established procedure for describing property. This established method is to extract the description from the recorded vesting document and mathematically determine the description of the remaining parcel. Any photographic, digitized or Global Positioning

System (GPS) location information is merely extra information to aid in the identification and location of properties.

8.5.1 Aerial Photography

Aerial photography is an important tool in the discovery of real property improvements and verification of real property use. Aerial photos are particularly useful to help discover escaped improvement assessments in remote areas, change of agricultural land use, and as an additional mapping layer in GIS. The photography should be taken with a sufficient number of ground control monument, paneled or targeted so they can be identified.

Information and descriptions from aerial photos can be digitized into a GIS system. However, such information is for reference only and must not be used to replace descriptions created by the recorder's office from vesting documents.

8.5.2 Global Positioning System (GPS)

Hand-held instruments are now available to identify position, elevation and distance anywhere on the earth. This Global Positioning System (GPS) is based on the relative location from any of twenty-four NAVSTAR satellites in geo-synchronous orbit 11,000 miles above the earth. The primary advantage of GPS is that the property tax administrator can determine the location of any point without maps in the field. Comparing information from field sightings with ownership plats in the office can determine property ownership. This will help identify improvements, which are not on the assessment roll, location of gravel pits and oil drilling rigs, and other properties far from urban areas. GPS is an important tool for the property tax administrator, but is not to be used to create parcel descriptions.

Appendix 8A

Sources of Maps

Aerial Photographs

- United States Department of Agriculture
- Farm Service Agency (FSA)
Phone (801) 975-3503, Fax (801) 975-353
2222 West 2300 South
Salt Lake City, UT 84119
- Regional and County Planning and Zoning Office
- Private aerial photography providers and contractors

Base or Section Maps

- County Surveyor's Office

Contour Maps or Topographic Maps

- Utah Geological Survey Department of Natural Resources
Phone: (801) 537-3300, Fax: (801) 537-3395
1594 W. North Temple
Salt Lake City, UT 84116
- Private vendors

Plat Books and Subdivisions

- Commercial Mapping Companies
- County Recorder's Office

Soil Survey Maps

- Natural Resources Conservation Service (NRCS)
Phone: (801) 524-4572, Fax: (801) 524-4403
125 South State, Room 4010
Salt Lake City, UT 84147
- Utah State University Extension Services
Offices located in each county

Computerized Parcel Layers

- Automated Geographic Reference Center (AGRC)
Phone: (801) 538-3165
3162 Capital Office Building
Salt Lake City, UT 84114

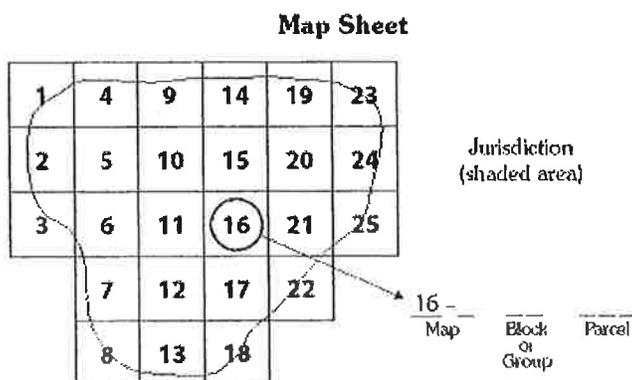
Appendix 8B

Standard Abbreviations Permitted in Property Tax Proceedings

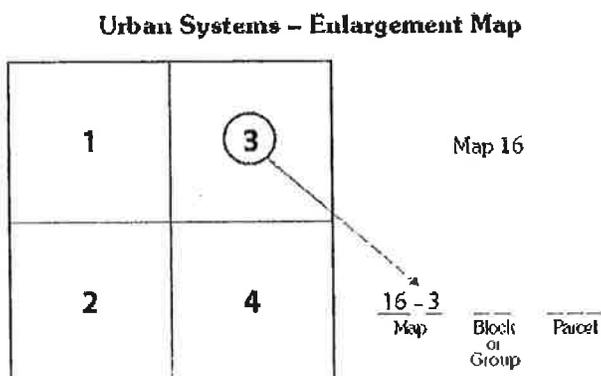
a., ac	for acre, acres
add.	for addition
ave.	for avenue
beg.	for beginning
blk.	for block
bet.	for between
bdy., bdrs.	for boundary, boundaries
ch., chs.	for chain, chains
com.	for commencing
cont.	for containing
deg.or °	for degree, degrees
dist.	for distance
E	for East
E'ly	for easterly
ft.	for foot, feet
frac.	for fractional
in., ins.	for inch, inches
lk., lks.	for link, links
lt., lts.	for lot, lots
m., min., or '	for minute(s)
m. or l.	for more or less
N	for north
NE	for northeast
NE'ly	for northeasterly

N'ly	for northerly
NW	for northwest
NW'ly	for northwesterly
pt.	for point
¼ sec.	for quarterly section
r., rs.	for range, ranges
rd., rds.	for rod, rods
ROW	for right of way
s. or "	for second, seconds
SE	for southeast
SE'ly	for southerly
st.	for street
sub.	for subdivision
S.L.M.	for Salt Lake Meridian
SW	for southwest
T., tp., tps.	for township, townships
th.	for thence
U.S. sur.	for Unites States Survey
U.S.M.	for Uintah Special Meridian
W	for West
W'ly	for westerly

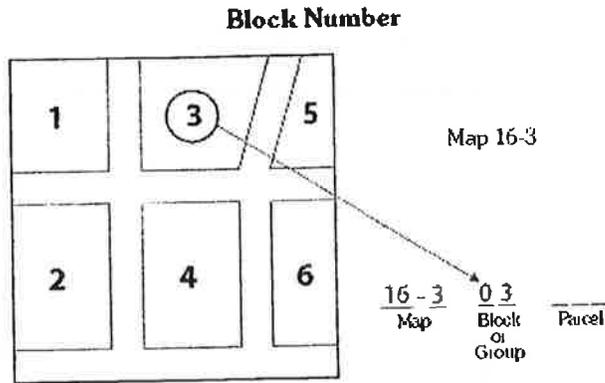
Appendix 8C Map-based Parcel Identification System



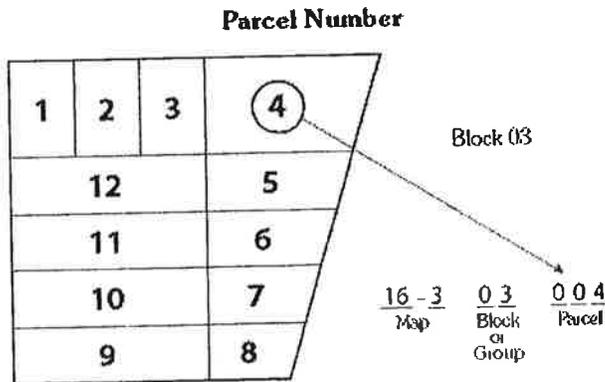
The map sheet is the basic component. In this example, the sheets are numbered consecutively north to south beginning in the northwest corner of the jurisdiction.



In urban or congested areas, the second component is an enlargement map. In this example, the enlargement maps are designated as suffixes of the basic (rural) map sheet.



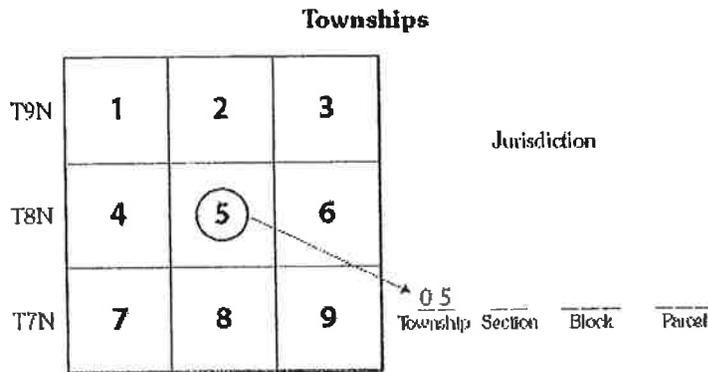
In urban areas, the third component is the block number. A block or group is one or more contiguous parcels completely surrounded by roads, streams, railroads, or the margin of the map.



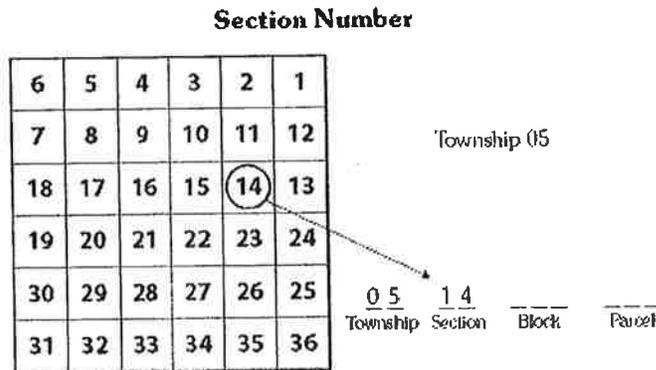
In urban areas, the fourth component is the parcel identifier, assigned consecutively within each block.

Appendix 8D

Government Survey Parcel Identification System

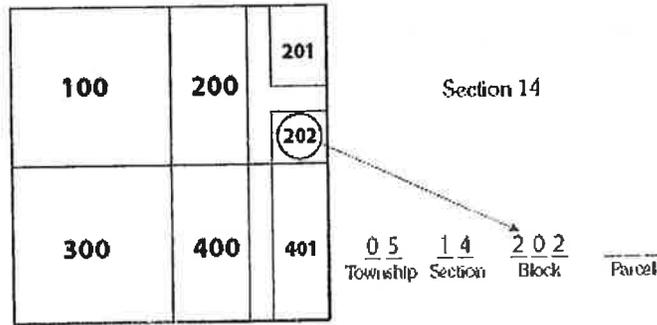


The township is the basic component of this system. In this example, all townships within the jurisdiction are assigned consecutive numbers from west to east. An alternative approach would be to use tier and range directly, such as: Tier – 08; Range – 14.



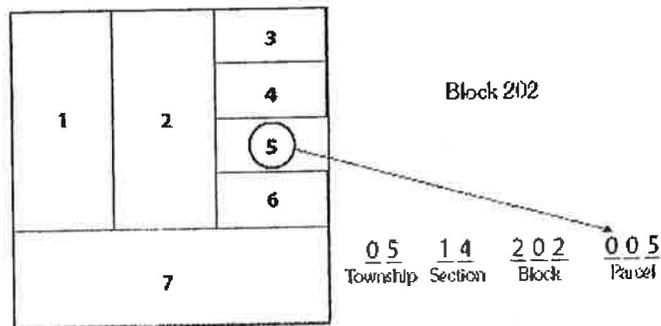
The second component is the section number.

Block Number



The third component is the block designation. In this example, the northwest quarter is assigned 100–199, the northeast quarter is 200–299, the southwest quarter is 300–399, and the southeast quarter is 400–499.

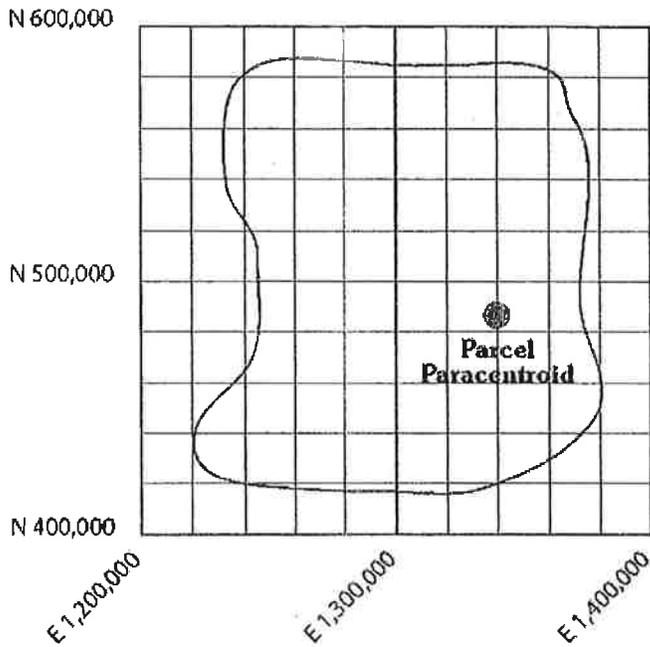
Parcel Number



The fourth component is the parcel designation. In rural areas, it is common for an entire quarter section to be under one ownership. If so, the parcel number is always 001. For example, if the southwest quarter of section 14 above is one parcel, the designation would be 05 14 202 001.

Appendix 8E

Geographic Coordinate Code Parcel Identification System



1340000 0482416
 Easting Northing

or

10 34 48 02 04 01 06
 EN EN EN EN EN EN EN

The entire jurisdiction is covered by a contiguous grid system. The geocode of the paracentroid (visual center) of the example above is 1,340,000 feet east and 482,416 feet north. This may be written using either of the methods shown. Note that the number of digits could be shortened by identifying the paracentroid to the nearest ten feet.