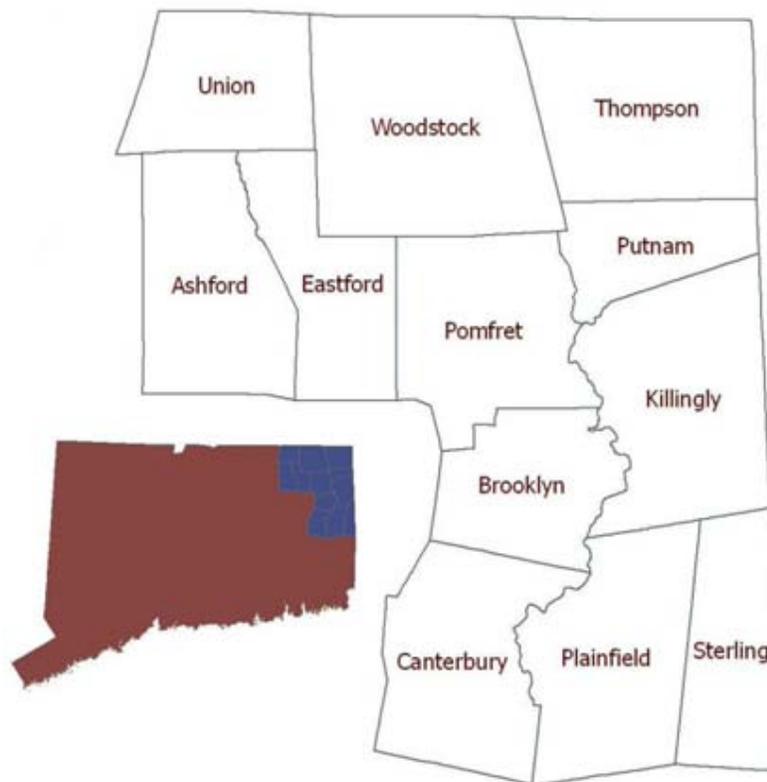


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[CADASTRAL DATA AUDITS]

Detailed description of the steps, processes and queries necessary to validate cadastral attribute data for a jurisdiction.

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Introduction

When creating or maintaining parcel data in GIS, one of the more important linkages maintained is the integration with the Assessor's CAMA system. In order to maintain the link, several audit reports should be performed to ensure links aren't broken or constructed improperly. In order to accommodate the integration between the GIS and CAMA systems, an attribute that is mutual to both systems must be created and maintained. The concept of the GIS and CAMA Audit can also be applied to other municipal systems to validate those systems' linkages. Most of the audits are twofold and bidirectional meaning that certain audit reports are completed both ways between the two datasets. When an error is corrected on one of the reports, most likely it will also be corrected on the corresponding report

This reports conducted under the GIS and CAMA Audit are as follows:

1. Unmatched Records - GISID
 - a. CAMA VS GIS
 - b. GIS VS CAMA
2. Duplicate Records - GISID
 - a. CAMA GISID
 - b. GIS GISID
3. Addressing Records
 - a. Unique GIS Street Names (Right-of-Way Polygons)
 - b. Unique CAMA Street Names
 - c. Unmatched Street Names
 - i. CAMA VS GIS
 - ii. GIS VS CAMA

Unmatched Records - GISID

Typically, the starting point for conducting audit reports on parcel data is running a query that identifies records that are in one of the datasets but not in the other (thus mismatch) based on the mutual attribute commonly called GISID, parcel ID, PIN, RPKEY and so on. In most cases, if there is a record in one of the reports, the corresponding record may be in the other report. In this section, both the creation of unmatched records reports, the possible reasons records end up in either of the mismatch reports and possible resolutions will be discussed. Sometimes, records will not match and the effort to find the documentation (deeds or maps) to add the record to the CAMA or GIS is too time consuming or difficult, then these unmatched records can be flagged with an Unmatched Status (in GIS there is a MatchStatus attribute with Yes or No values) that can be used to create a Known Exemption list. Once a record is a Known Exemption then it is easy to remove them from the unmatched reports.

CAMA VS GIS

This is the most significant audit report. This report is created through a query that selects records in the CAMA database that do not have a corresponding record in the GIS. It is not uncommon for this report to have a few hundred records included in the results. Though it also common for this report have no records included in the results. For a report with results, examples why records are included in the report and possible resolutions are as follows:

Reason #	Description	Resolution
1	Parcel not presently mapped	Add parcels to map from best source.
2	Incorrect GISID	Fix GISID (either CAMA or GIS or Both)
3	CAMA record Condo, Lease, Cell tower of other multi record.	Amend GISID in all of the common properties to be the same, and also provide GISID for GIS mapping.
4	Parcel not mappable with given resources	Add record to the CAMA Known Exemption Report

Typical information presented in the report are the internal CAMA system ID, the parcel ID, owner, address, and acreage of the property. These are sorted by the parcel ID or the Map Block Lot type components of the parcel ID. Essentially, any information within the CAMA database can be presented in the report to aid in finding the information to correct the problem that is causing the record to be included in the report.

GIS VS CAMA

This report is created through a query that selects records in the GIS dataset that do not have a corresponding record in the CAMA database. Rights-of-ways are typically excluded from this report. Typically there are several records included in this report. In many cases, state and other exempt property will be mapped but not recorded in town CAMA databases. It is recommended that all property be added to the CAMA databases if they are currently not included. Below is a list of the examples why a GIS record is in the GIS VS CAMA report and possible resolutions:

Example #	Description	Resolution
1	Incorrect GISID	Fix GISID (either CAMA or GIS or Both)
2	No CAMA record for Parcel	Research and add record to CAMA if found. If not found, then add to GIS Known Exemption Report
3	GIS feature a Right-of-Way	Change the Parcel Type to appropriate Right-of-Way type (municipal, state, railroad, or paper street)

The information presented in the GIS VS CAMA report are the GISID, ObjectID, Property Type (Private, State, ..) , Ownership Type (Fee Simple, Water, Condo...), Source Type (Tax Map, Clerk Map..), and the source map number. Other information can also be included. In some cases, printouts can also be generated and included in the audit report to show where a particular unmatched property is located.

Duplicate Record Reports - GISID

Inevitably, records in both CAMA and GIS will have duplicate GISID's. There are several reasons why these duplicates exist. The fact that these appear on these reports does not mean that there is something wrong but rather these are to highlight the records that are supposed to have duplicate GISIDs. Though, if more than one record has the same GISID and they are not supposed to, then this report will highlight those records.

The information presented in the GIS Duplicates report are the GISID, ObjectID, Property Type (Private, State, ..) , Ownership Type (Fee Simple, Water, Condo...), Source Type (Tax Map, Clerk Map..), and the source map number. Other information can also be included. In some cases, printouts can also be generated and included in the audit report to show where a particular unmatched property is located.

CAMA GISID Duplicates

The most common and expected GISID duplicate relate to condominiums and other common ownership property. **This report does not necessarily identify unmatched or problem records**, but for the most part highlights records with identical GISID's. Since the GIS parcel dataset is modeling land, the common land is owned by all owners within the common ownership. In database terms this relationship is termed a one-to-many relationship (sometimes referenced as 1-M). All of the common owner records in the CAMA database should have the same GISID that is in the corresponding GIS parcel which should also be coded with Condominium in the Parcel Type attribute field. Other valid duplicate GISID examples more or less relate to the necessity to create additional CAMA records for taxation purposes. Some specific examples of this would include Cell Towers, trailers, leased structures on property, Life Use arrangements, property spanning more than one taxation district and elderly splits. It is useful to the Assessor to have all of their records relate to a particular parcel even if the record does not contain any land assessment. Below are examples of valid CAMA GISID duplicates and the reasoning why these are valid.

Example #	Description	Reasoning
1	Cell Tower	Cell owner most likely leases the land and has an easement for access, power and communications service.
2	Trailer	Trailer owner most likely leases the land and/or trailer.
3	Leased Structure	
4	Life Use	Family member may have Life Use of a home on a family members land
5	Taxation Districts	Property spans distinct taxation districts that result in part of the land and structures on that land being assessed at different rates.
6	Elderly Splits	Components of an individual property may qualify for certain tax breaks

GIS GISID Duplicates

There are generally only a few instances where duplicate GISID values in the GIS parcel dataset are acceptable. With this in mind, most GISID duplicates in the GIS parcel dataset are typically errors that should be corrected. Below are some examples of valid GISID duplicates within a GIS parcel dataset and why these are valid.

Example #	Description	Reasoning
1	Split Parcel	In some cases a parcel may be intentionally split by a Right-of-Way or another parcel. These are considered whole, but separate.
2	Same Owner	Occasionally, instances where a single owner has several properties that are both connected and not contiguous and the defining boundaries between those properties are unclear and the effort to resolve the boundaries would be exhaustive. In cases like this, having a single GISID linking all of the properties together would be a short term solution

Street Name Reports

Since both the CAMA database and GIS parcel dataset are central and fundamental government data sources for address information, it is crucial to compare at minimum the street names utilized in both datasets. In the CAMA database the address and street name of interest are the property location street and address. In GIS parcel dataset the street name is contained within the Common Name field.

Unique GIS Street Names

In the GIS parcel dataset, Street Names are stored in the Common Name field attribute in the various road Right-of-Way polygons (State, Municipal, Private, and Paper Street). A simple query is utilized to select the unique street name and corresponding road Right-of-Way type. The resulting report should be evaluated for correct spelling, numeration (1st vs First) and punctuation (Wrights vs Wright's). This will also be used in subsequent queries comparing street names in the CAMA database.

Unique CAMA Street Names

Similar to the unique CAMA street names, this query and report lists the unique street names utilized in the CAMA database. The same evaluation conditions apply to this listing.