



Horry County, South Carolina CAMA, Planning, Addressing, GIS & CMMS Integrated Land Records Solution

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What Is?

- Land Records - the PROCESS of building information relating to:
 - Geometry
 - Ownership of land
- Computer Assisted Mass Appraisal (CAMA)
 - Automated **PROPERTY Related** information system
 - Values property
 - Ensures tax equity through uniform valuations
 - Regulated by State Department of Revenue

Project Goals

- Configurable
- Use existing business software solutions
 - Cityworks (Work order)
 - Oncore (Register of Deeds)
 - Permits Plus (Planning)
- GIS centric solution
- **Maintain individual editing responsibility!**

Project Goals

- Eliminate duplicate data entry
 - Addresses
 - Parcel Maintenance
 - Tax Districts
 - Agricultural Use
 - ANYTHING IN THE GEODATABASE!
- Enterprise Integration

First Rule - Keep it simple



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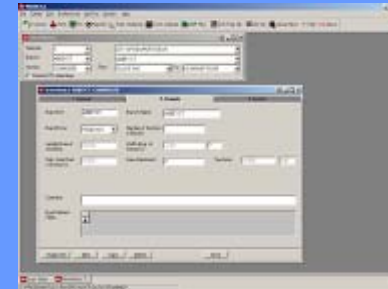
Enterprise Integration Impact

Single-point access to all relevant data

Planning &
Development

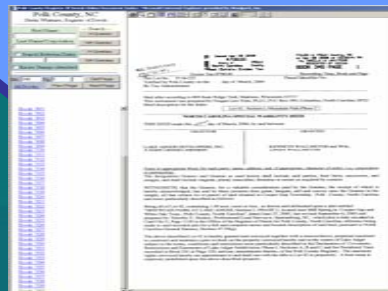


CAMA



GIS

Register of Deeds



Addressing/911



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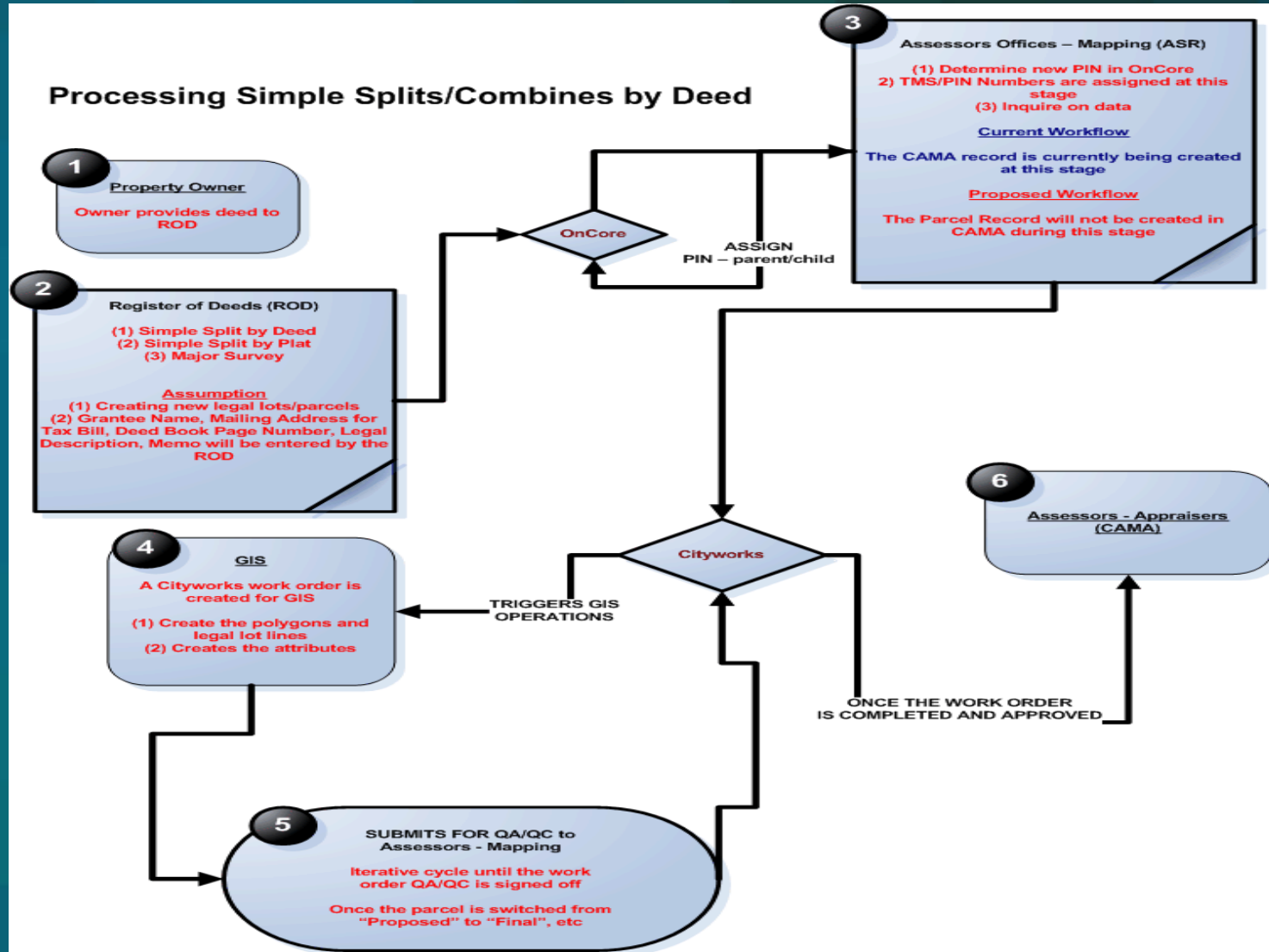
Step 1: Workflow Analysis

- Register of Deeds
 - Oncore Recorders Software
 - Tax Assessor Add-on Application
- Planning & Development
 - Digital Submissions
 - Proposed Subdivisions
- GIS/IT
 - Maps Proposed & Legal Boundaries
 - Condos

Step 1: Workflow Analysis

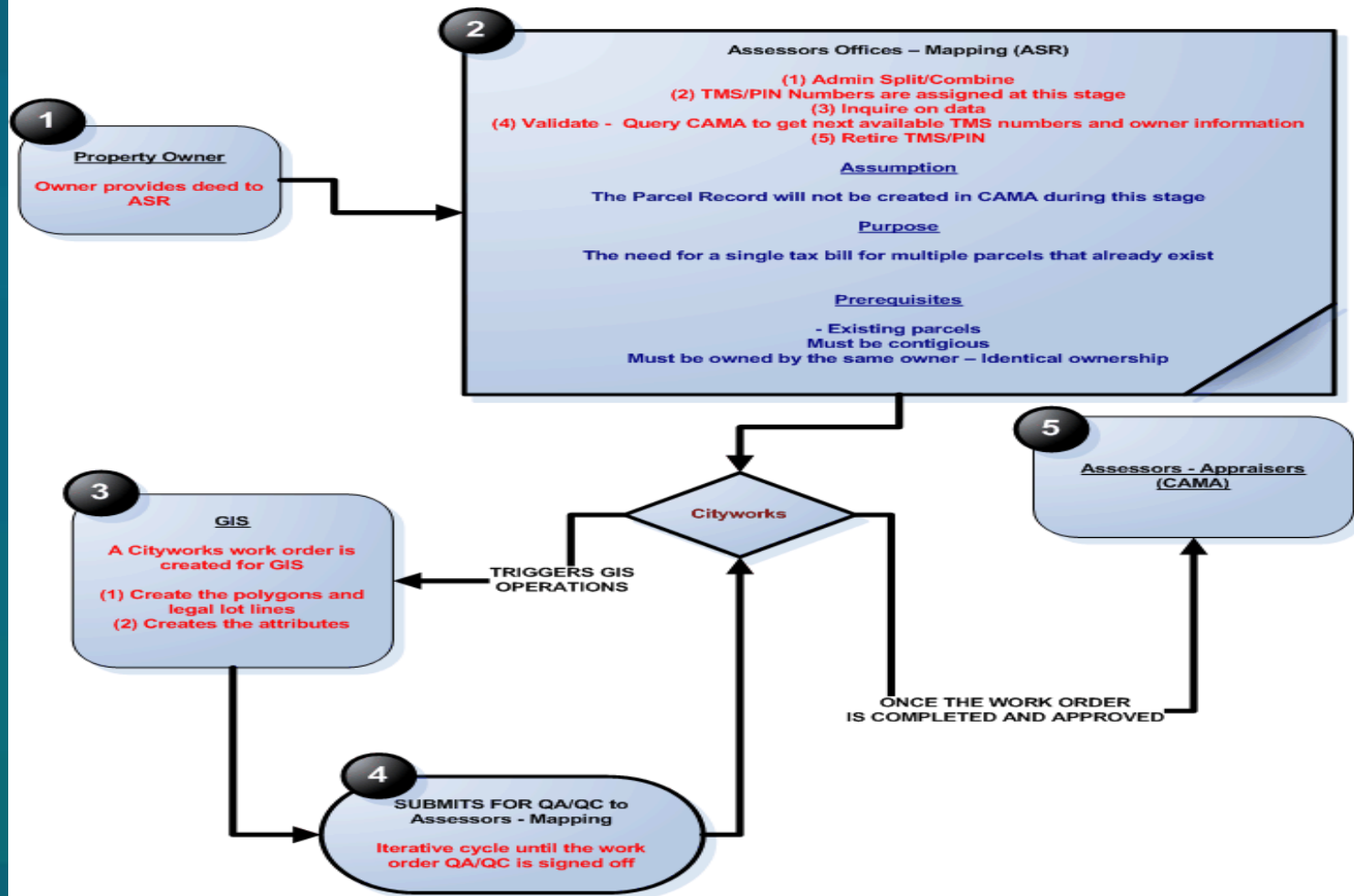
- Property Appraiser
 - Issues TMS/Parcel Number (**CHANGING!!!**)
 - Ownership clerk - no longer GIS Mapper
 - Cityworks CMMS
 - Bi-directional workflow with GIS department
- 911/Addressing
 - Point based situs building addresses
 - Assign addresses before final permit - EOC

Step 2: Document Observations



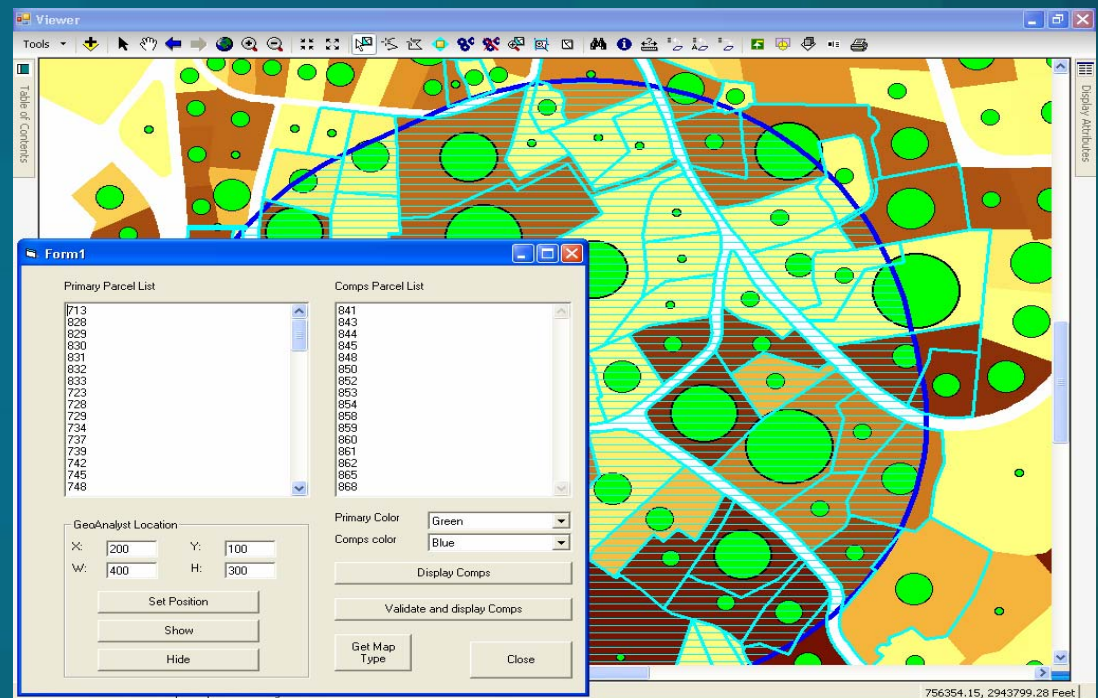
Step 2: Document Observations

Processing Administrative Splits/Combines



Step 3: Software Design

- Native GIS Viewer (Tax Assessor CAMA)
 - Native CAMA functionality
 - GPS enabled for field collection thematic mapping
 - Measuring
 - Overlay analysis
 - Sales ratio studies
 - Sales comps
 - Update CAMA
 - Query SDE



Step 3: Software Design

- GIS Change Detection (GIS/IT)
 - Track geographic changes for ALL feature layers
 - CAMA specific attributes
 - Maintain history in relation to tax year
 - Configurable project settings

Step 3: Software Design

- Bi-directional workflow
 - Reviews, accepts or declines data
- Update by user
- Timed or automatic

Step 4: Geodatabase Design

- Parcel Feature Class:
 - Dynamically Generated CAMA & Parcel Unique ID in Parcel Feature Class
 - Operation Type - Split, Merge, Create, and/or Delete
 - Operation Subtype - Single Surviving Parent, etc.
 - Parent Parcel Unique ID
 - Effective Date of Creation
 - User ID
 - Parcel ID Integer, No Characters

Step 4: Geodatabase Design

- Address Feature Dataset:
 - Develop relationship class
 - Multiple addresses can be assigned to a single CAMA record
 - Effective date
 - User ID
- Soil Layer
 - GIS soil layer CAMA related attribute update
- Subdivision Mapping
 - Effective date – driven from legal document
 - User ID
 - Parcel ID*

Step 4: Geodatabase Design

- Condos
 - Store Condominiums
 - External related table linked to their land parcel through the CAMA unique ID
 - Effective date
 - User ID
- Zoning
 - Multi-zoned parcels
 - Effective date
 - User ID
- Property Boundaries
 - Resolve 300 unidentified and missing parcels

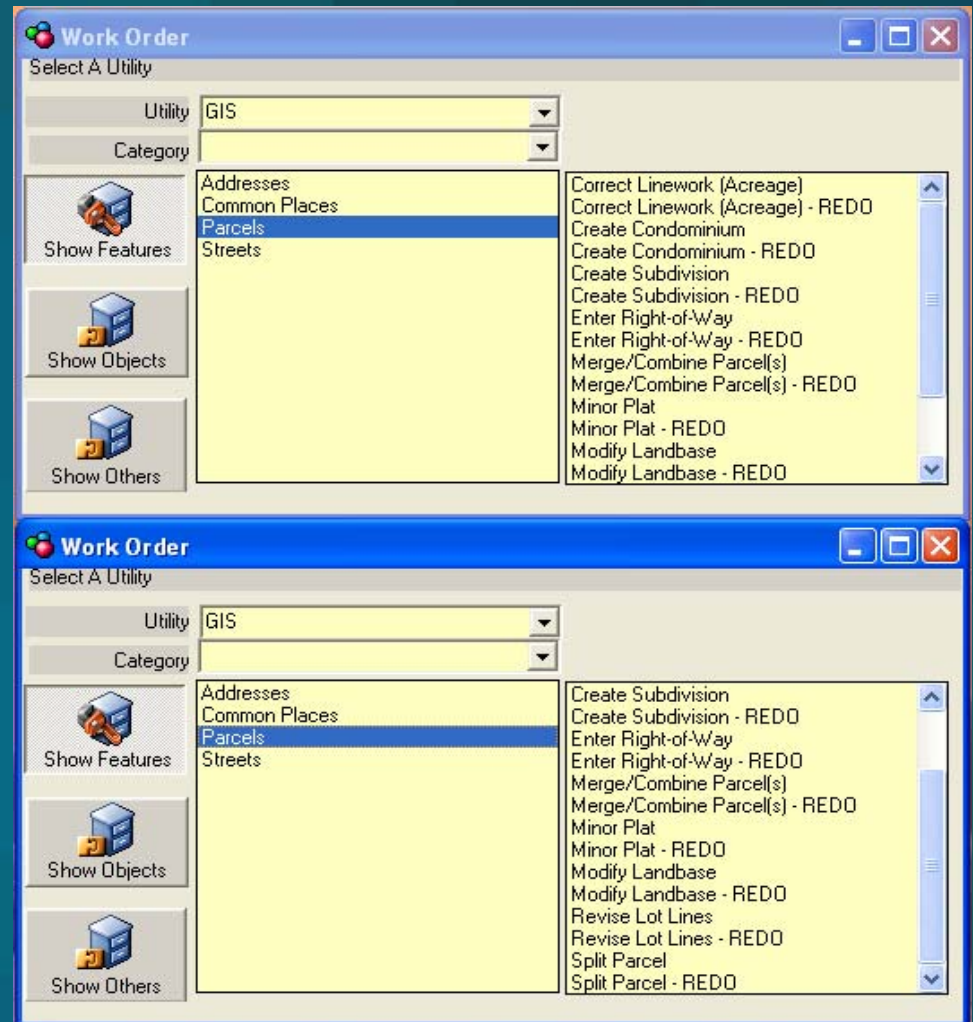
Step 5: Build/Test the Geodatabase

- History tracking relating to tax year
- Data must be registered as versioned
- Can only be enabled by data owner
 - sde
 - gisadmin
- Creates a new table - same schema as the original data
 - *gdb_to_date*
 - *gdb_from_date*
 - unique identifier *db_archive_oid*
- Table name = object class followed by `_H`
- Viewed after posted to `sde.DEFAULT`

Step 6: Configure CMMS Integration

Work order is created under one of the following categories:

- Addresses
- Common Places
- Parcels
- Streets



Step 6: Configure CMMS Integration

- Bi-directional
- Posting creates work order
- Accept, reject, or modify
- Child work order inherits information
- QA/QC process is iterative.

Step 7: Reap the Benefits

Enterprise Integration

- Eliminates Duplicate data entry (city, zoning, land use, legal, situs, etc.)
- Ensures one-to-one relationship between GIS and CAMA
- Improves throughput
- Eliminates mapping backlog

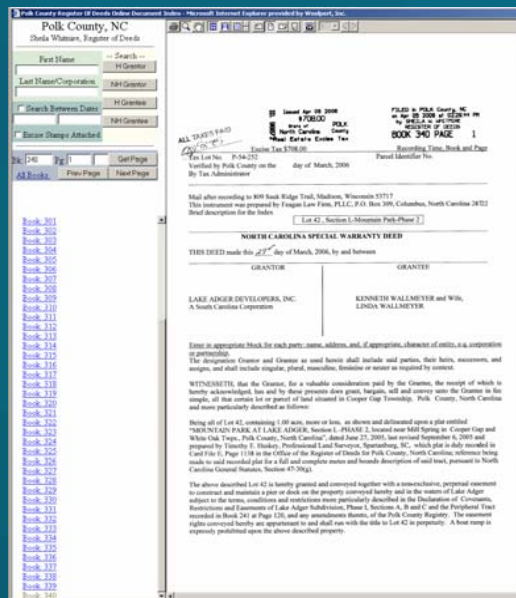
Step 8: Reap the Benefits Data Entry to Quality Control



Step 9: Reap the Benefits

Register of Deeds Integration Eliminates

- External data collection
- Irrelevant recorded legal records
- Duplicate data
- Backlog

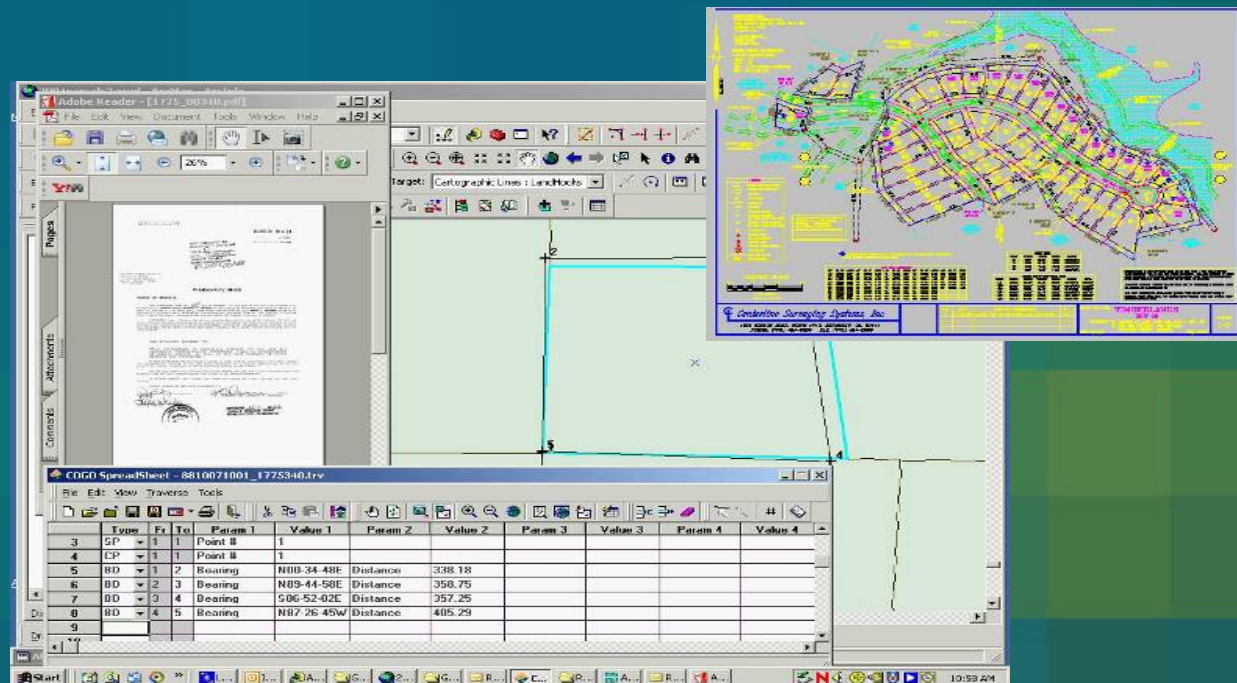


Folder	Description	Type
Appraisal	Appraisal Form 1C-8012	Am
Appraisal	Appraisal Form 1C-8013	Am
Appraisal	Appraisal Form 1C-8014	Am
Appraisal	Specialty Report 1C-8015	Am
Conveyance	Conveyance Form 1C-8007	Am
Conveyance	Conveyance Form 1C-8008	Am
Conveyance	Conveyance Form 1C-8009	Am
Conveyance	Conveyance Form 1C-8011	Am
Conveyance	Conveyance Form 1C-8012	Am
Conveyance	Legal Form 1C-8	Am
Conveyance	Legal Form 1C-9	Am

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Step 10: Reap the Benefits

- Planning & Development
 - Improves mapping accuracy - Digital Submissions
 - Eliminates backlog
 - Provides measures to analyze throughput
 - Allows for bi-directional workflow between Tax Assessor, Planning/Development, 911 Addressing and ROD



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Lessons Learned

- Review existing implementation backlog
- Evaluate workflow
- Create workable deadlines
- Be flexible
- Document all decisions
- Trust your vendor
- Hold your vendor accountable – SOW

Thank You



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