Southern Company Transmission

Building a Cadastral Fabric for Transmission Utilities

Alabama Power Transmission
GIS and Support

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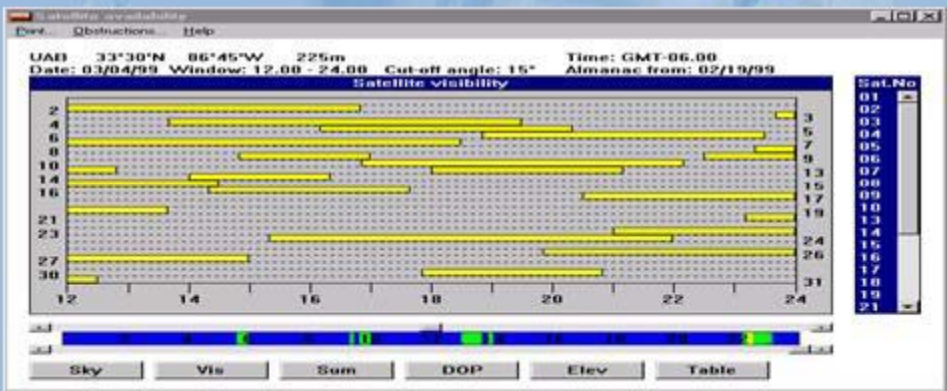
- Transmission Routing is Complex
- Data Availability Varies by Region
- Need to Build a Common Library of Controls
- Need to Improve Projection Workflow



- Need to “Get it Right the First Time”
- Need to Standardize Acquisition Process
- Better Information Out Results in Better Information Returns

DESIGN

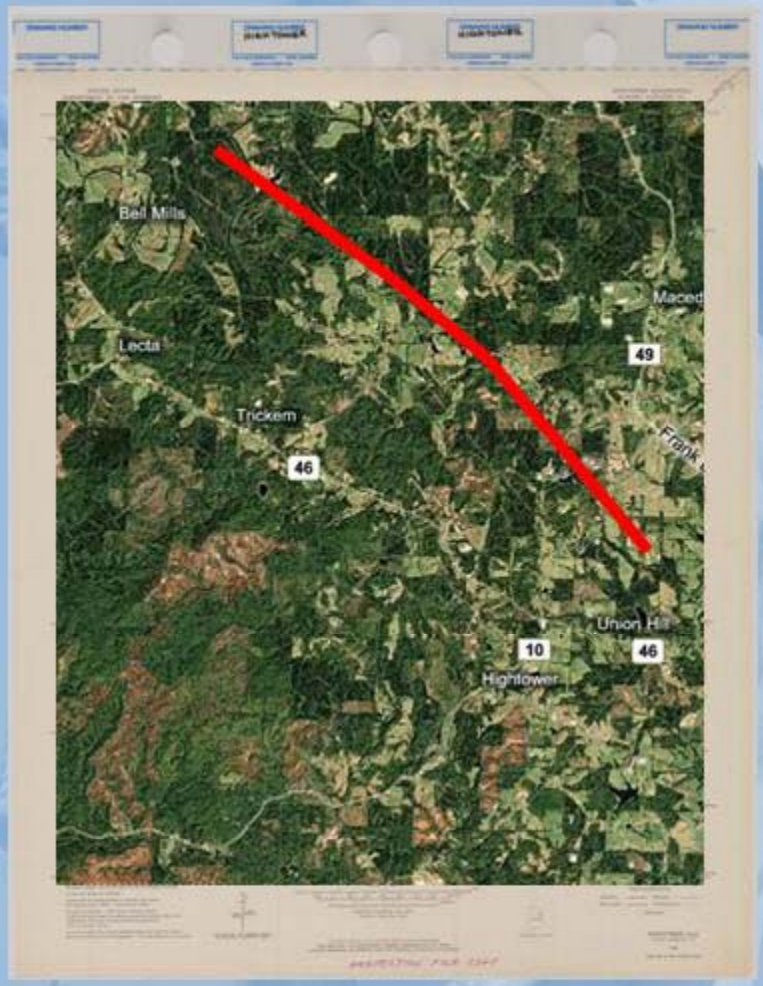
PROJECTION

SURVEY

REAL ESTATE

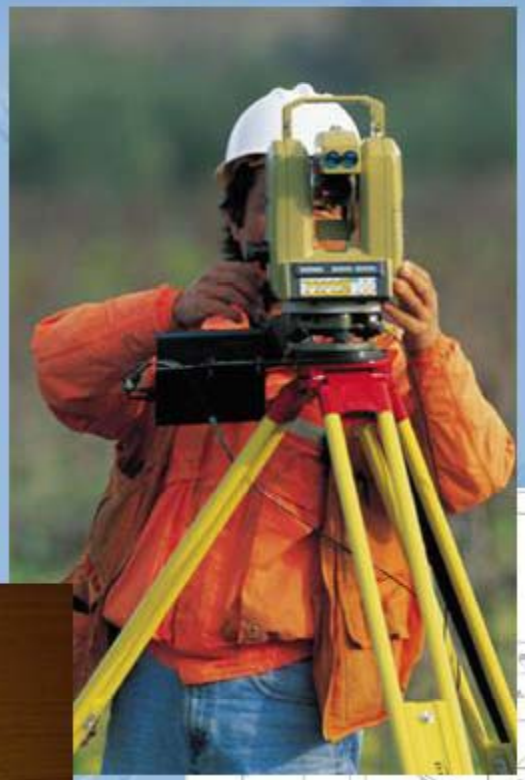
PROJECTION

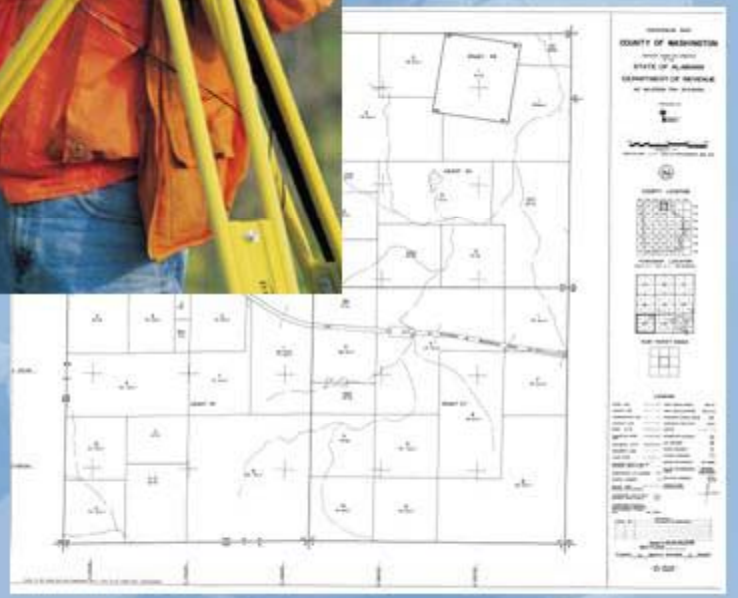
The initial projection was done using topographical maps. Routes were planned based on land features and information attained in the field. More recently, with the availability of aerial imagery, projections could be planned based on more obvious land features such as fence or tree lines.



SURVEY

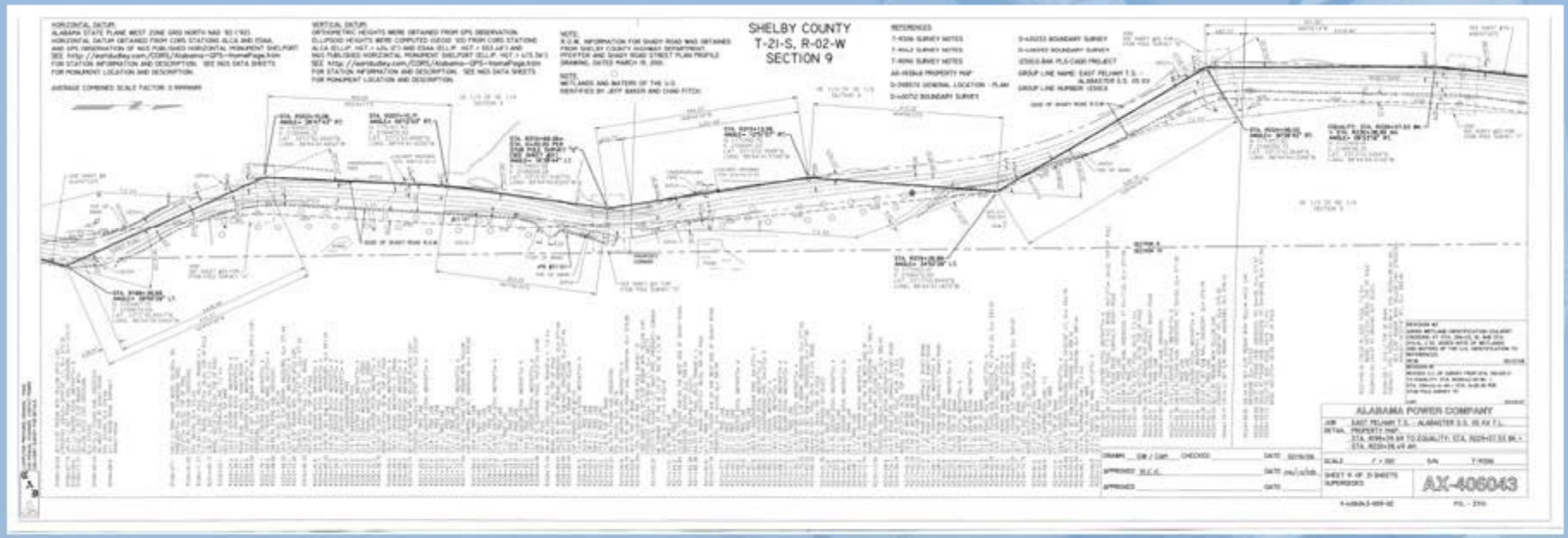
The projection is then handed over to Survey. The surveyors go out and establish and collect data along the centerline. Tax plats and deeds are used to find property corners.





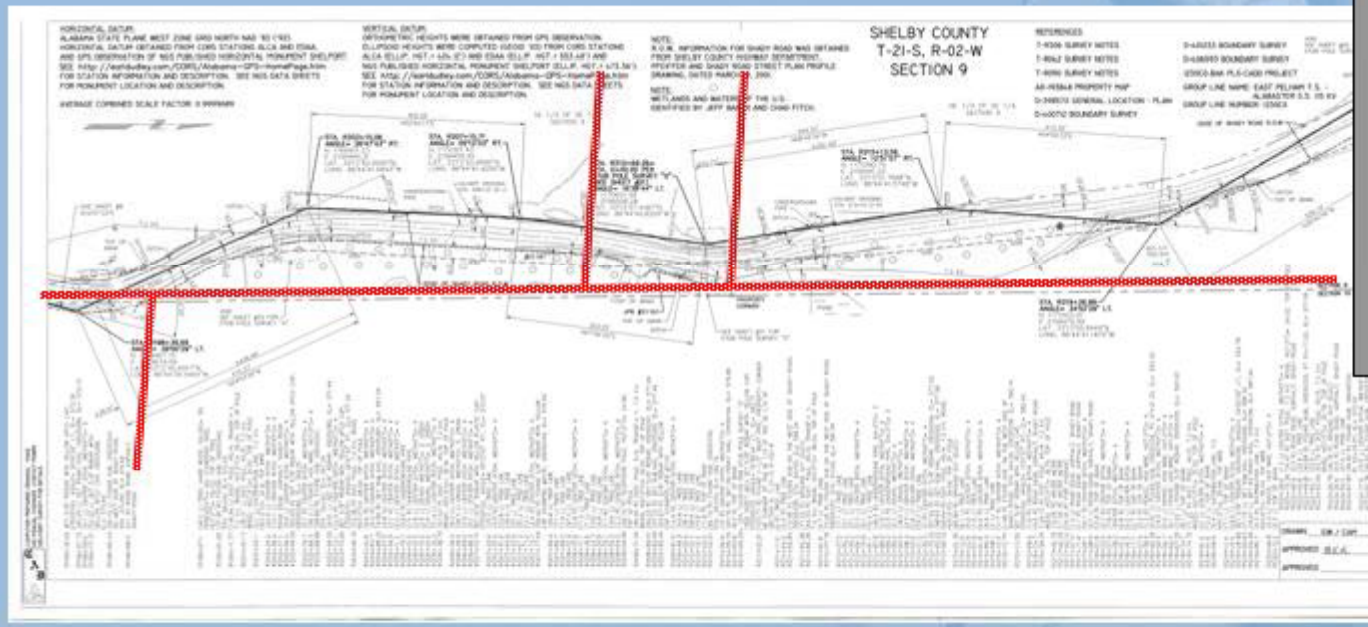
SURVEY

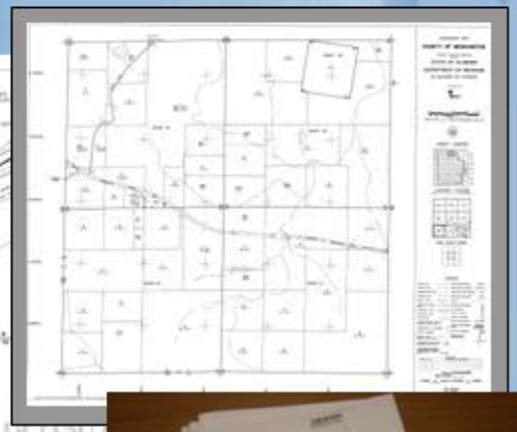
Drafters then generate drawings with the surveyed data and send them to Real Estate and ultimately to Line Design and Construction.



REAL ESTATE

Real Estate would take the survey drawings and sketch the property lines along the survey centerline using the tax plats and deeds. They could then approximate stationing that would be used in writing the right-of-way description. The next step would be to purchase the right-of-way.

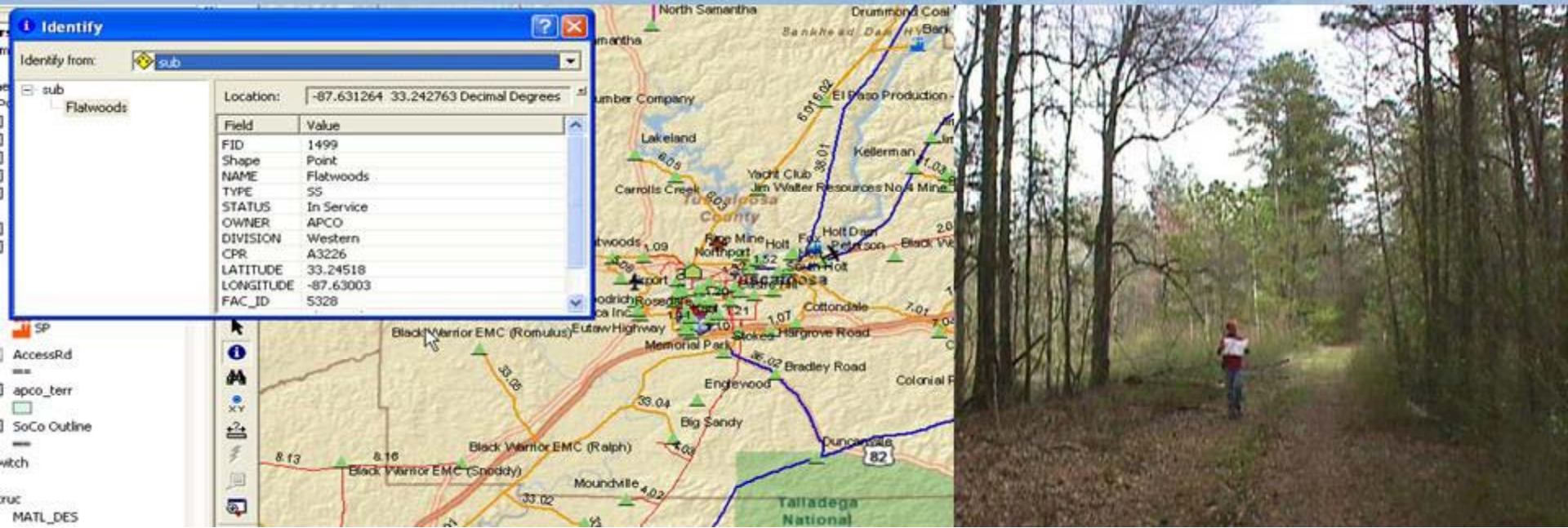




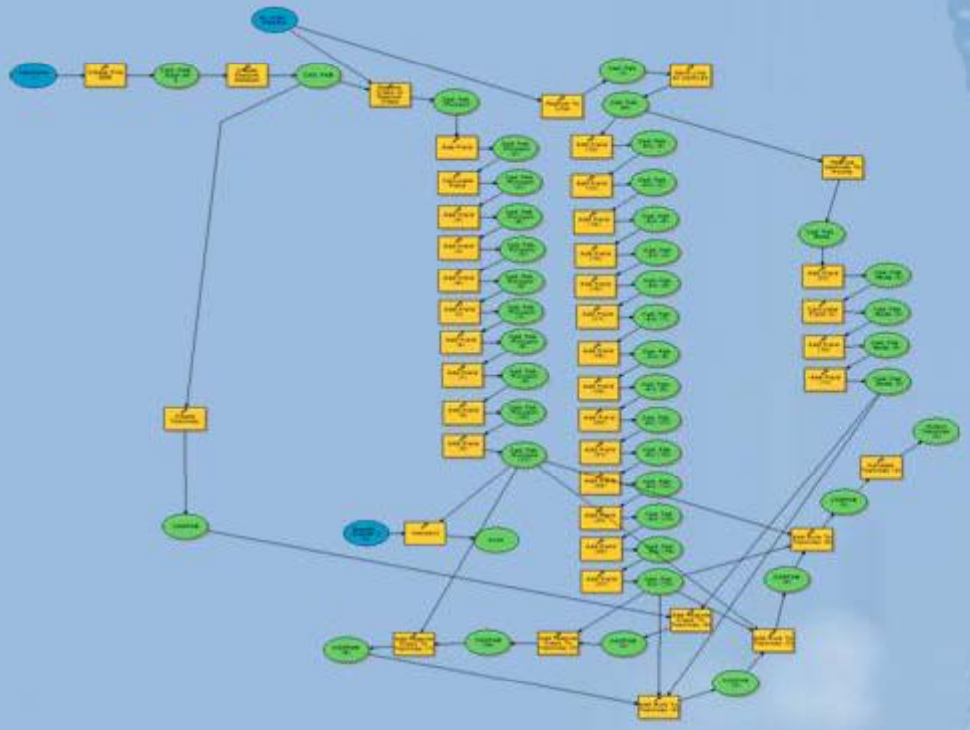
PROBLEMS

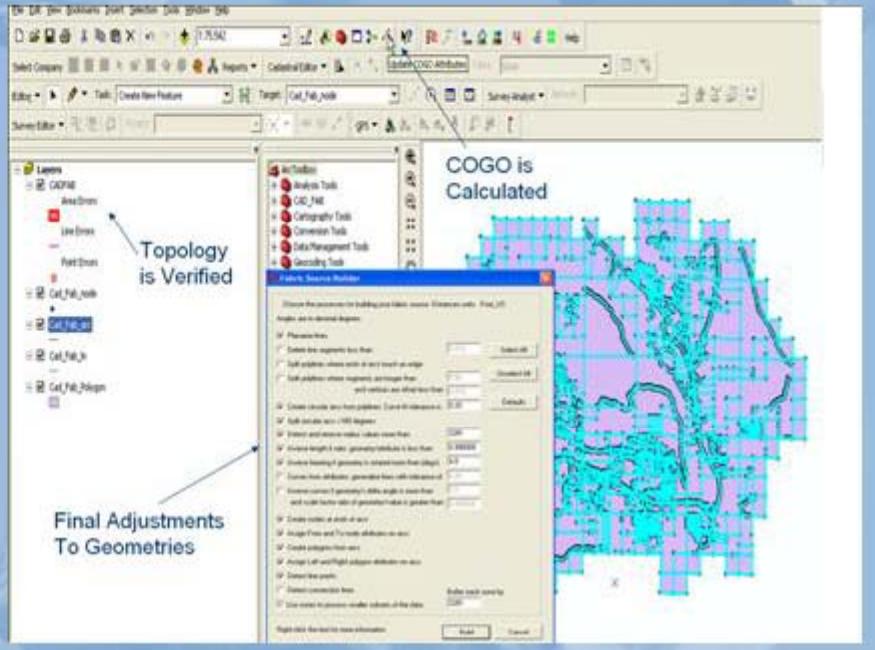
- Need to process data in different environments
- Need to use proper tool for the right job
- Minimize retraining or cross-training dollars
- Data must be accessible to a wide range of Engineers & Technicians

- Transmission Facilities & Initial Route Projections are stored in GIS format.
- Both functions need full access to Parcel and Survey Data



– Adapt Data Models and Procedures





Convincing Others and Meeting Expectations

A major task we had before implementing the Cadastral Fabric was convincing Survey of the validity of the product and that the "Least-Squares Adjustment" was legitimate method of Adjusting Parcels. Part of the solution to this problem was letting them know we would be adjusting to their data.

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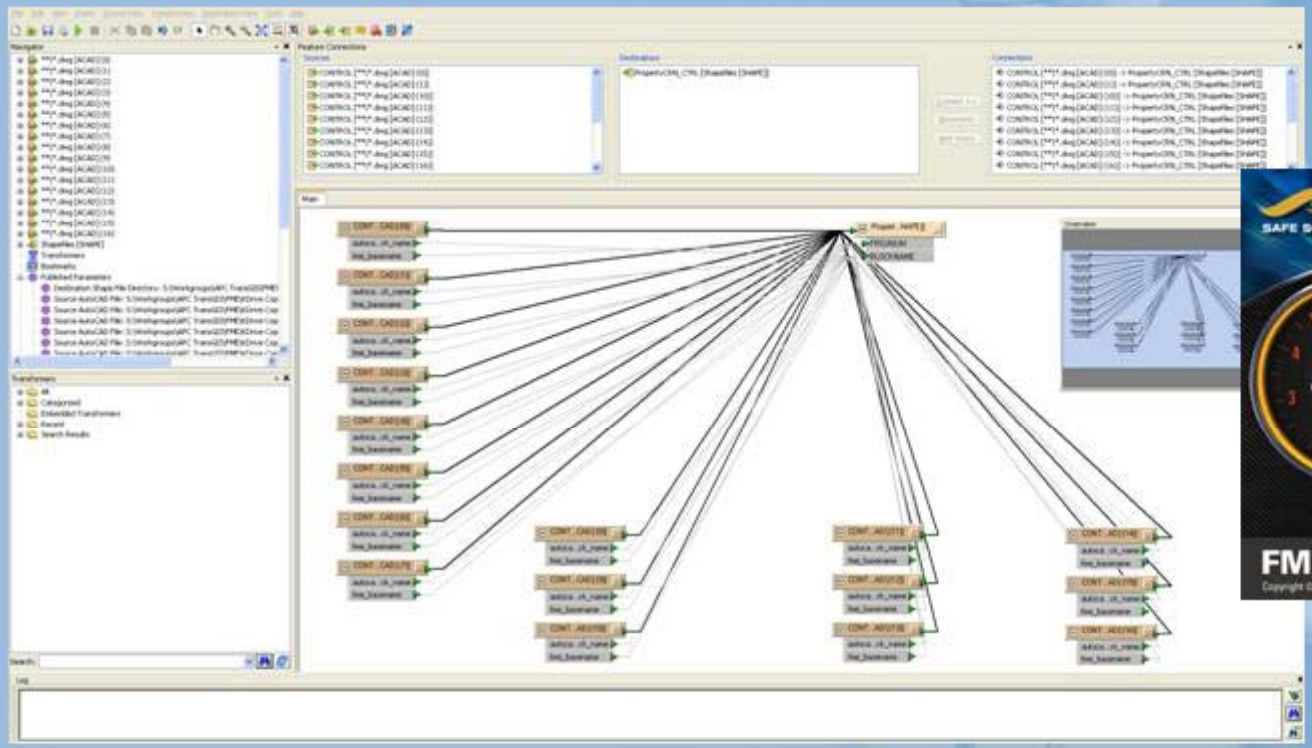
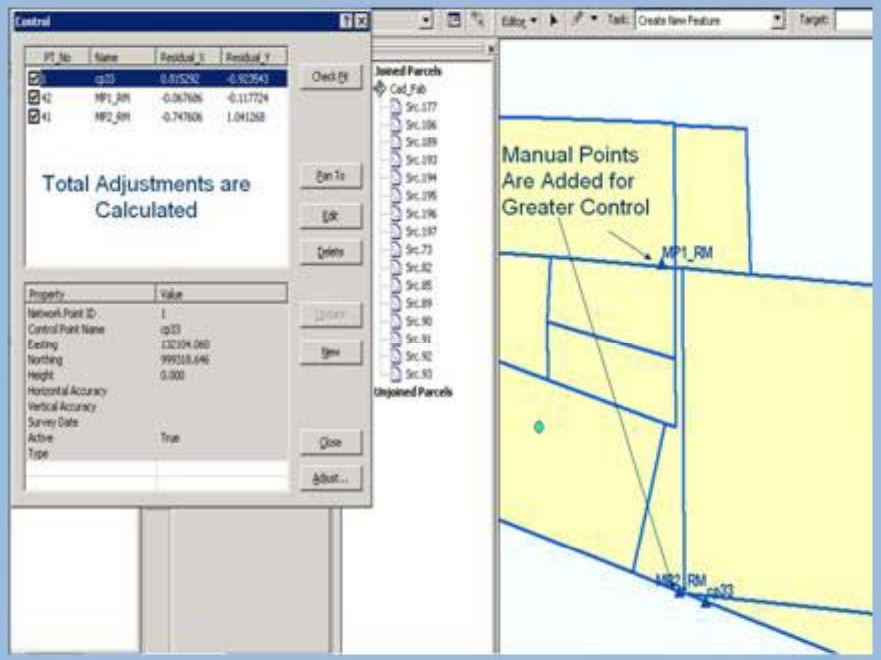
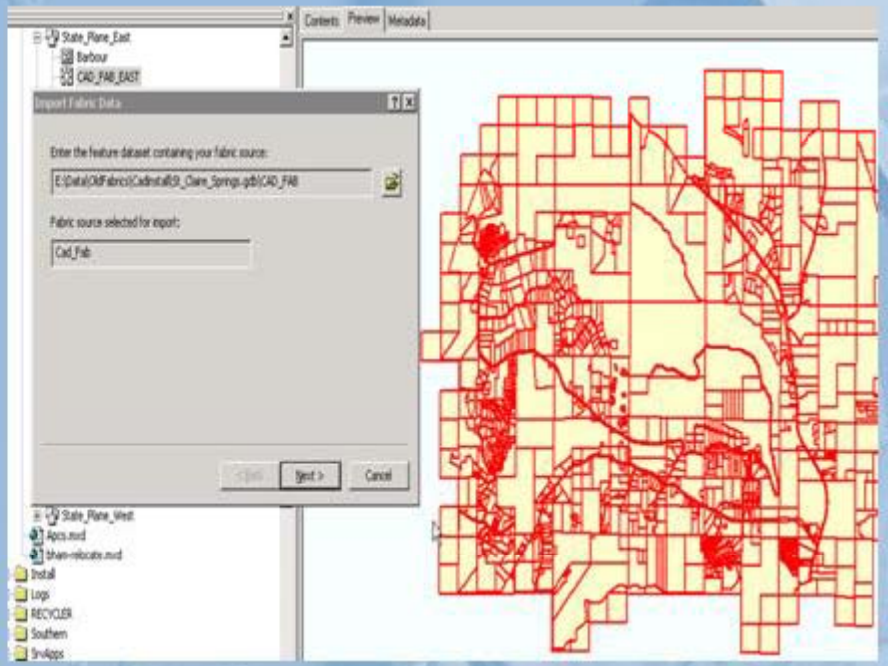
We used FME to strip out our property corners and section corner control points from our CAD Drawing Database.



Alabama is split into two state plane coordinate systems, East Zone and West Zone. Because of this, we created two different geodatabases to house each zone's Cadastral Fabric.

– Acquire a Virtual Server to Host Parcel





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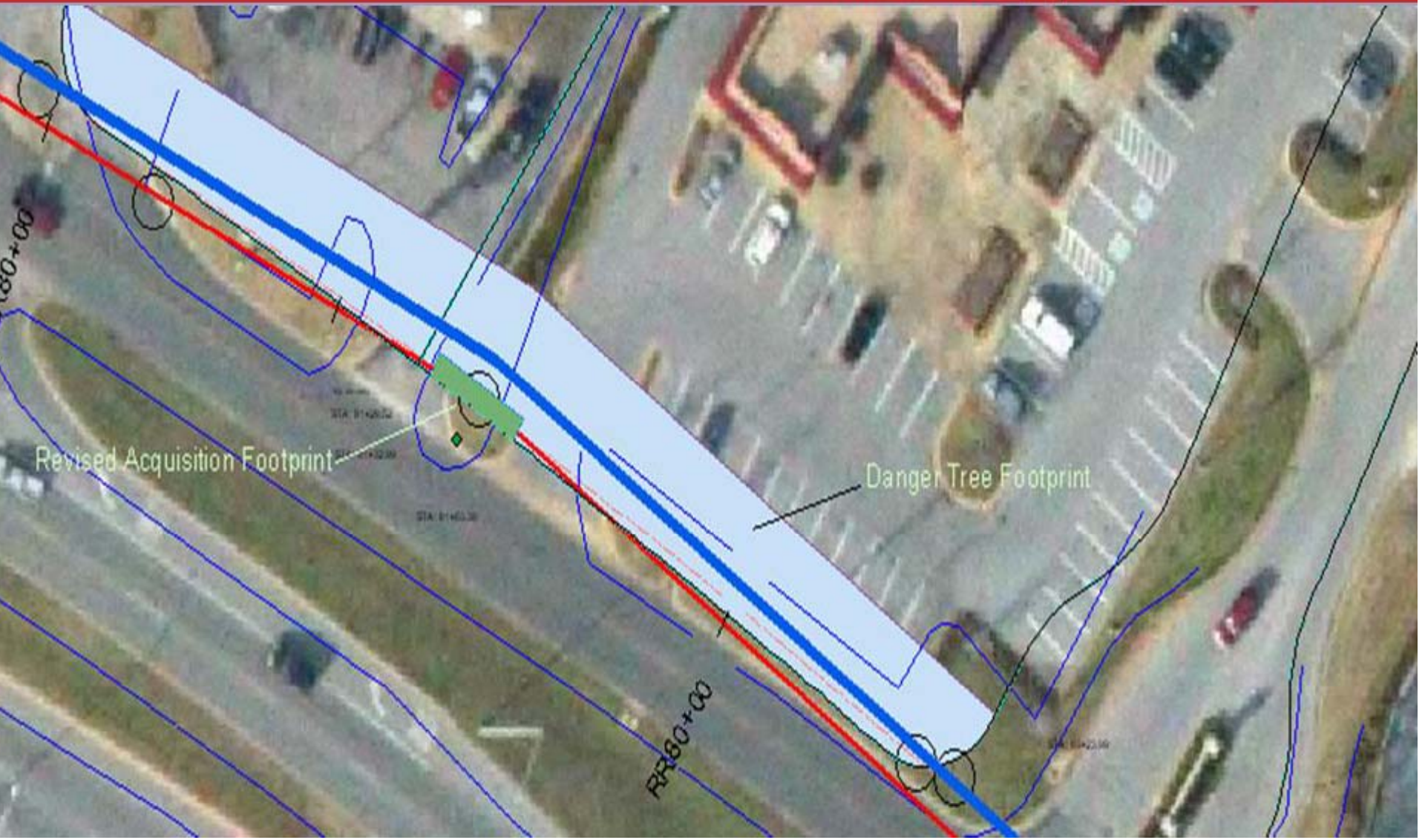

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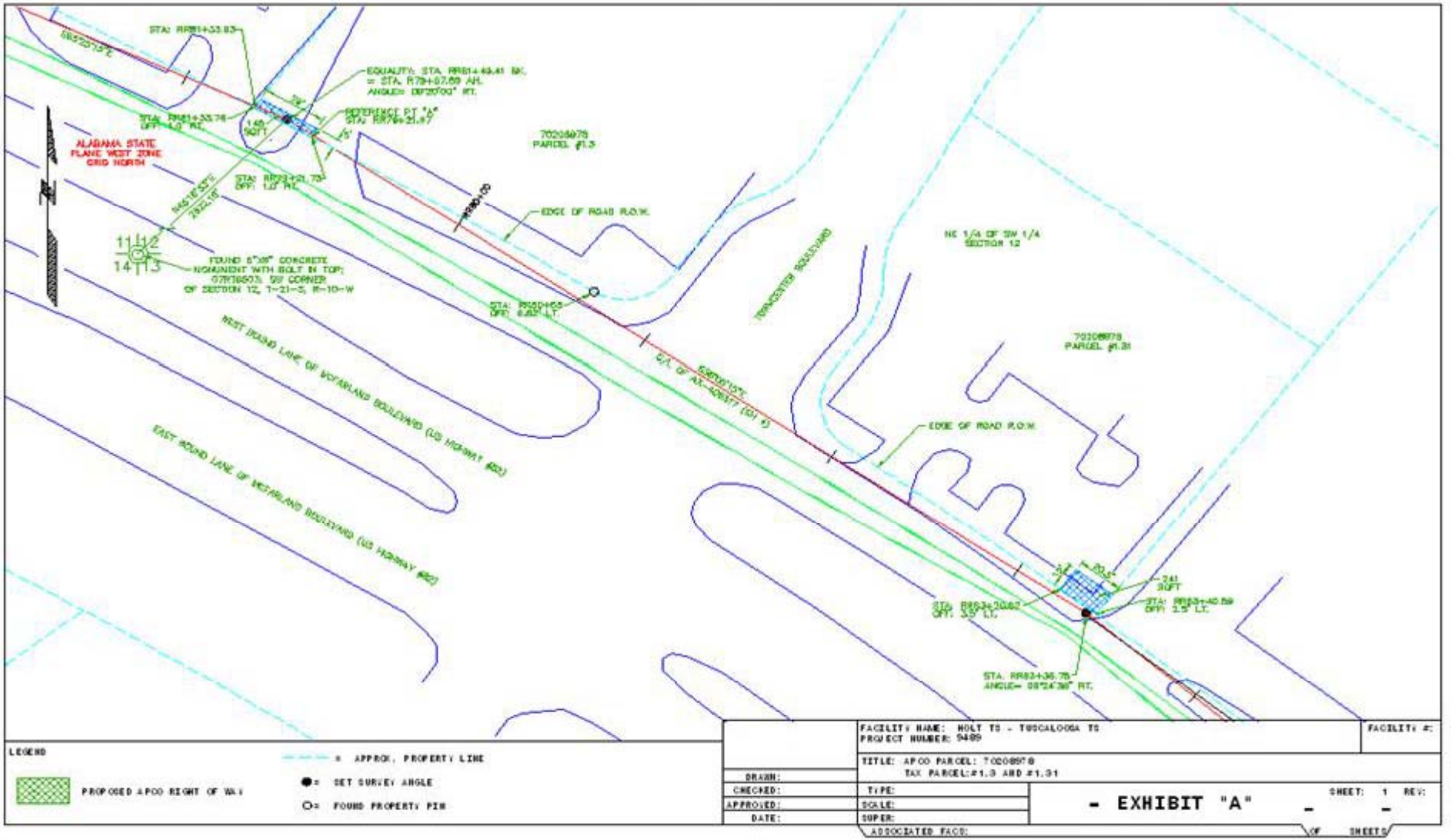

- Able to get accurate feedback on ROW Changes
- Able to translate to other formats rapidly
- Able to keep the Geometries separate from the Attributes
- Able to apply Survey Level Precision to GIS Data

- Survey Analyst is an Effective Tool for Managing Survey Controls and Parcel Data
- Training is Recommended Prior to Implementation
- Alabama Power Survey Anticipates over One Million Parcels in Fabric by the End of 4th Quarter 2009

Questions??