

Editing & Maintaining Parcels with ArcMap

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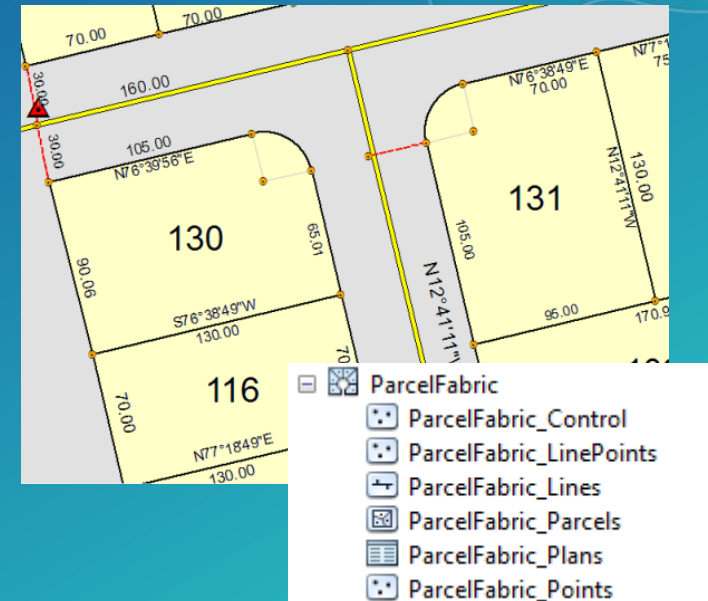
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What to expect

- An introduction to the parcel fabric
- A detailed explanation of the parcel fabric data model
- General editing techniques using parcel editing tools

What is a parcel fabric?

- Dataset of related feature classes and tables
 - Polygons, lines, points, plans, etc.
 - Predefined system attributes
- Connected parcel groups
 - Forms a parcel boundary network
- Explicit topology
 - Defined by common parcel corner points
- Parcel Editor toolbar

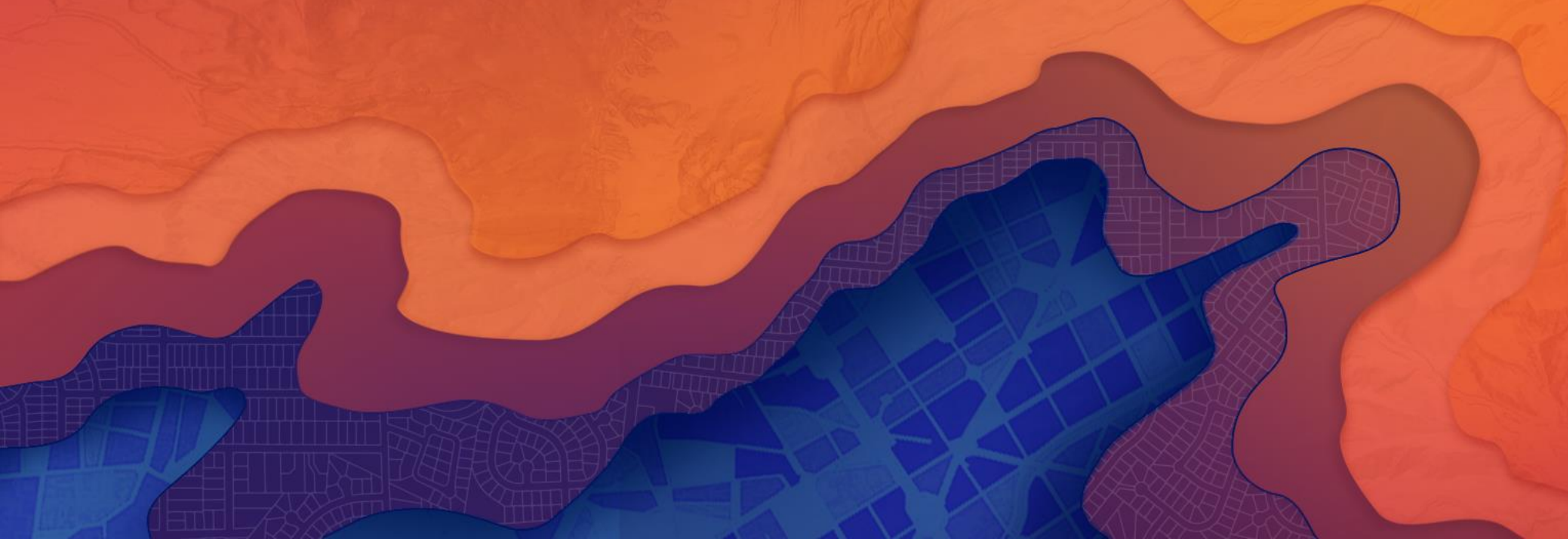


Why use the parcel fabric?

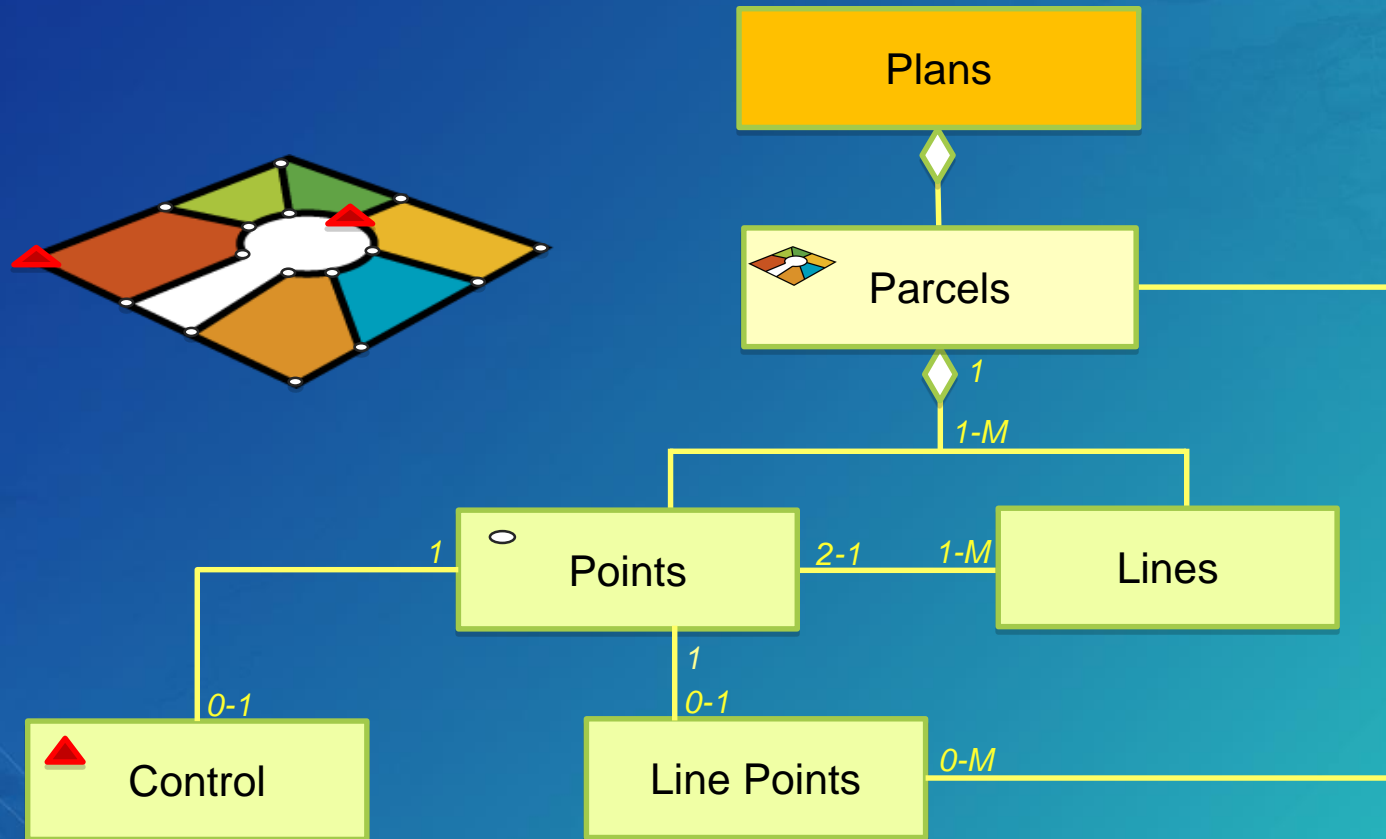
- Uses an optimized data model for parcel editing
- Preserves recorded information
- Maintains topology between parcels
- Maintains overlapping parcels
- Maintains historic parcels
- Uses automated workflows
- Uses/stores control points
- Maintains spatial accuracy



Parcel fabric data model



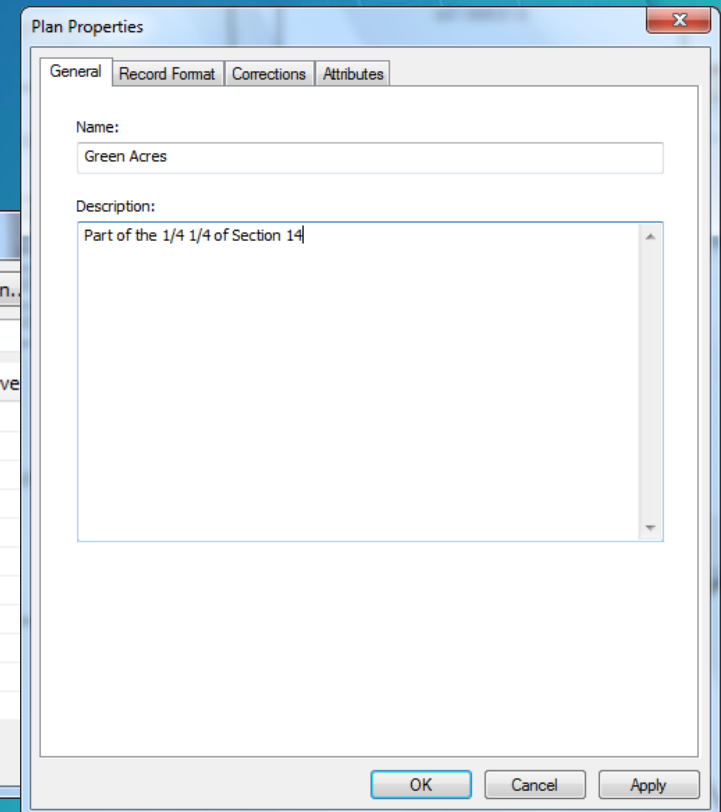
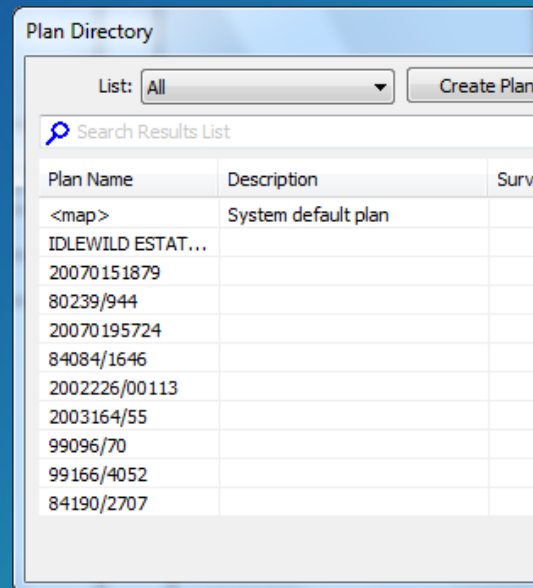
Parcel fabric data model



Plans

Parcel fabric data model

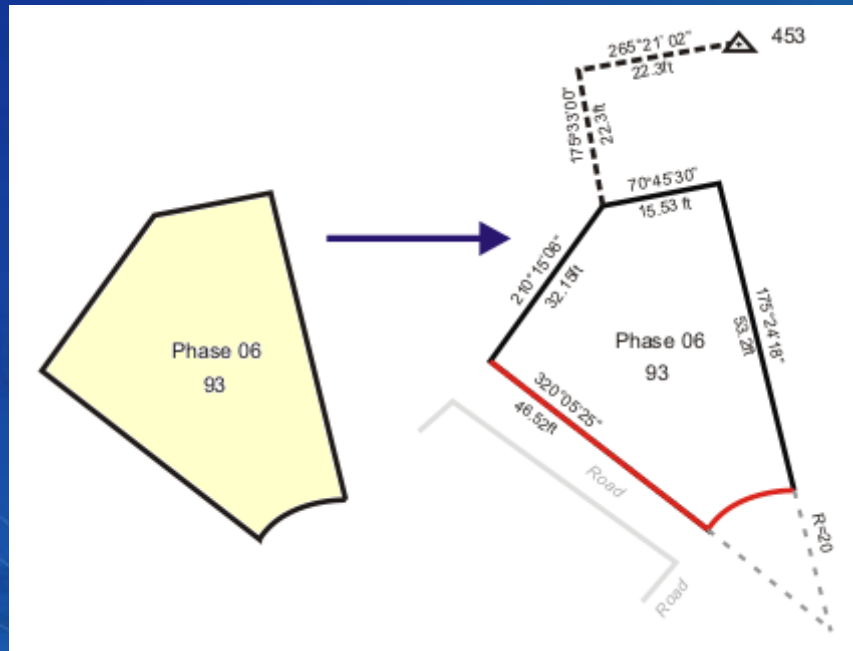
- Represent the legal document
- Store information such as
 - Record format (direction, angle, curve type)
 - Plan metadata
 - Legal date
- Contain one or many parcels



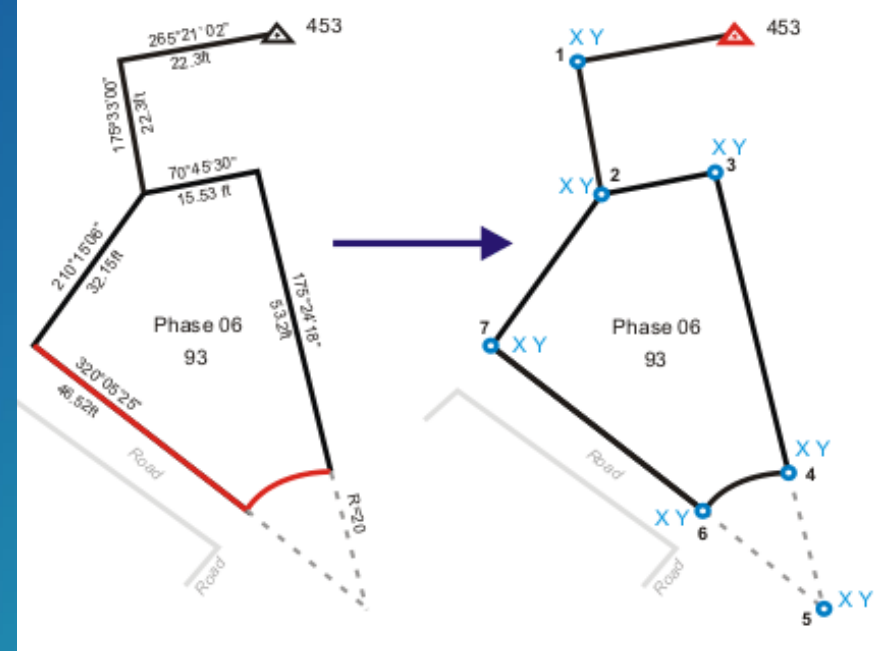
Parcels

Parcel fabric data model

- Parcel polygon is defined by a traverse



Parcel polygon has related lines

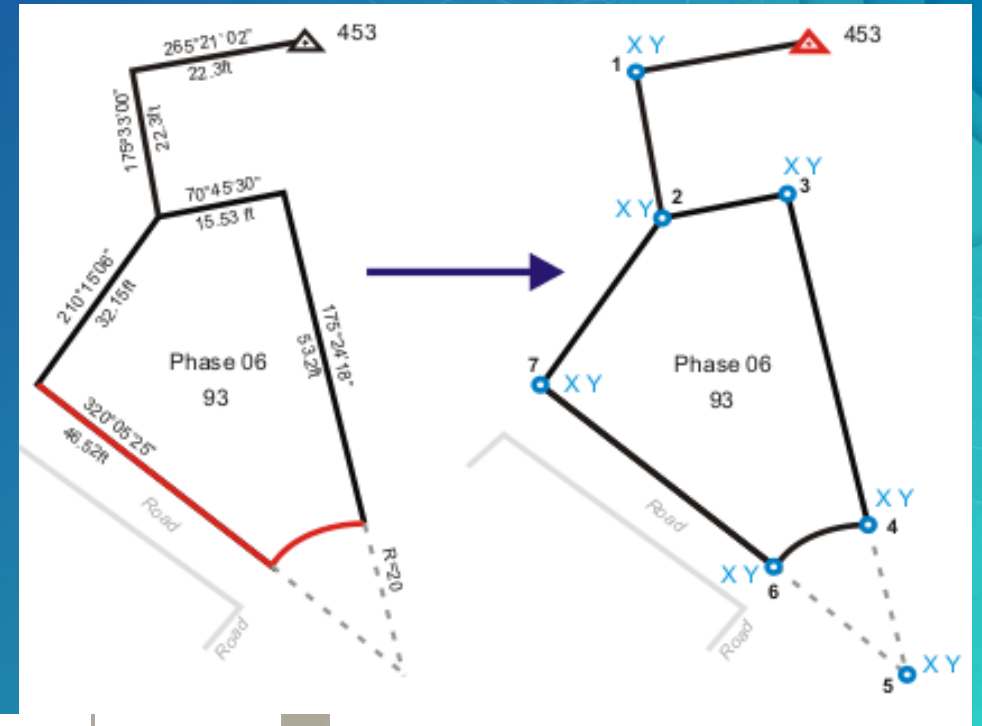


Lines have related points

Lines and Points

Parcel fabric data model

- Lines have From and To points
- Lines store recorded, COGO dimensions
- Lines have categories
 - Boundary, Radial, Connection,
- Points have X Y Z coordinates
- Points can have a control point



1	N89°17'14"E	107.150	2
2	S0°42'46"E	111.860	3
3	S89°17'14"W	107.150	4
4	N0°42'47"W	111.860	1

From Point

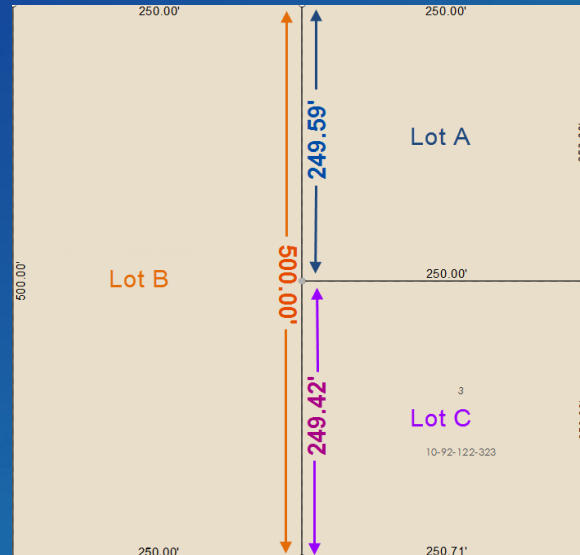
To Point

Parcel Traverse

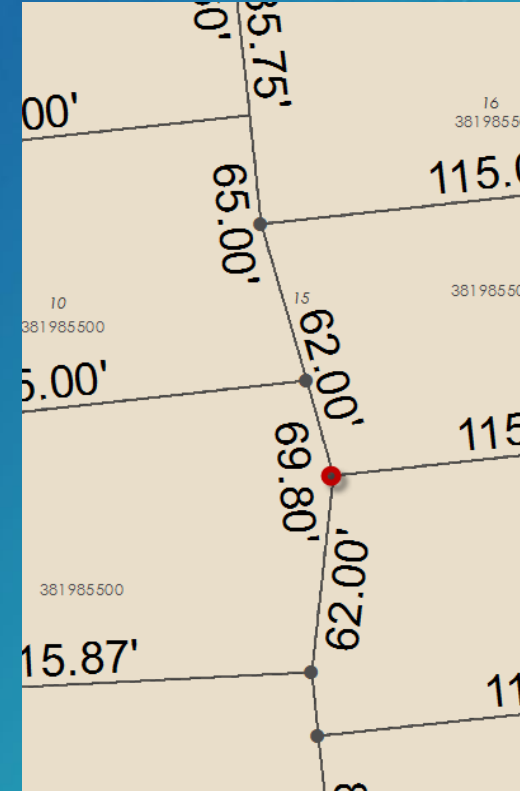
Line points

Parcel fabric data model

- Ensure topology between parcels
- Preserve recorded dimensions



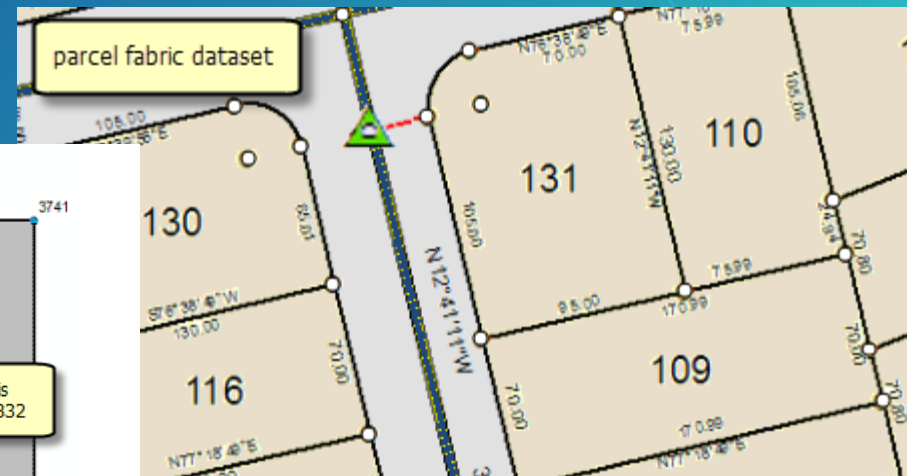
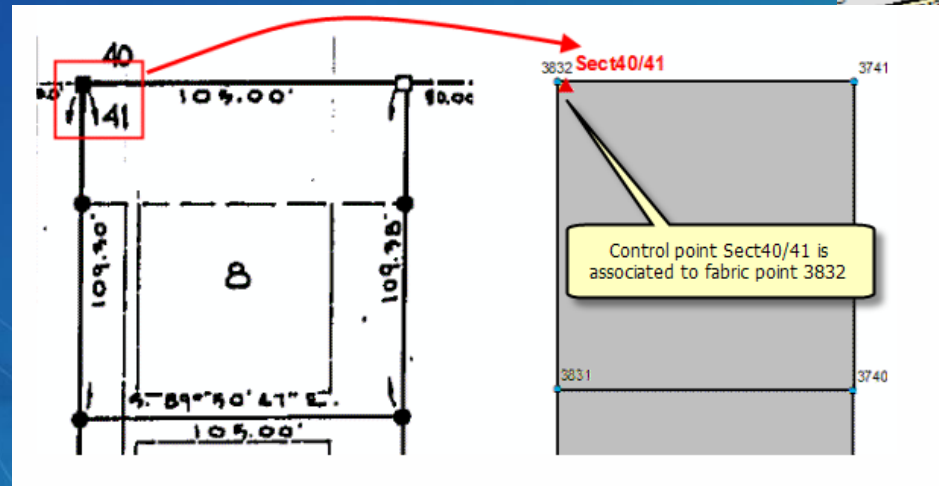
$$249.42 + 249.59 \neq 500$$



Control points

Parcel fabric data model

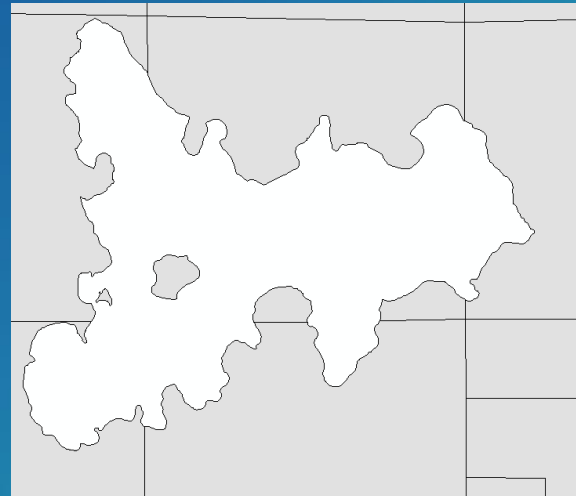
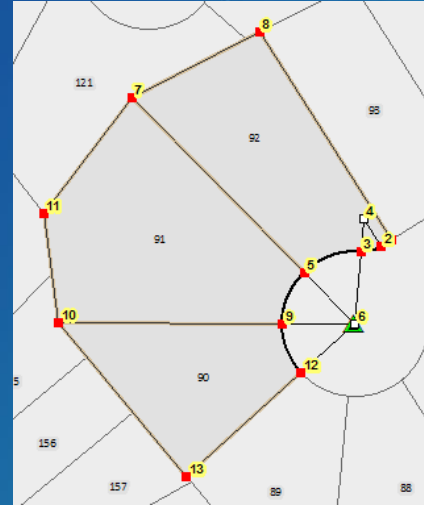
- Related (linked) to parcel points
- Can be imported or manually added
- Parcel points can be adjusted to control points in a parcel fabric least-squares adjustment



Parcel Fabric Data Model

Supports:

- True parametric curves and radial lines
- Natural boundaries
- Donut/island and multipart parcels
- Historic parcels
- Stacked parcels (Condos)
- Overlapping parcels



Overlapping parcels

Parcel fabric data model

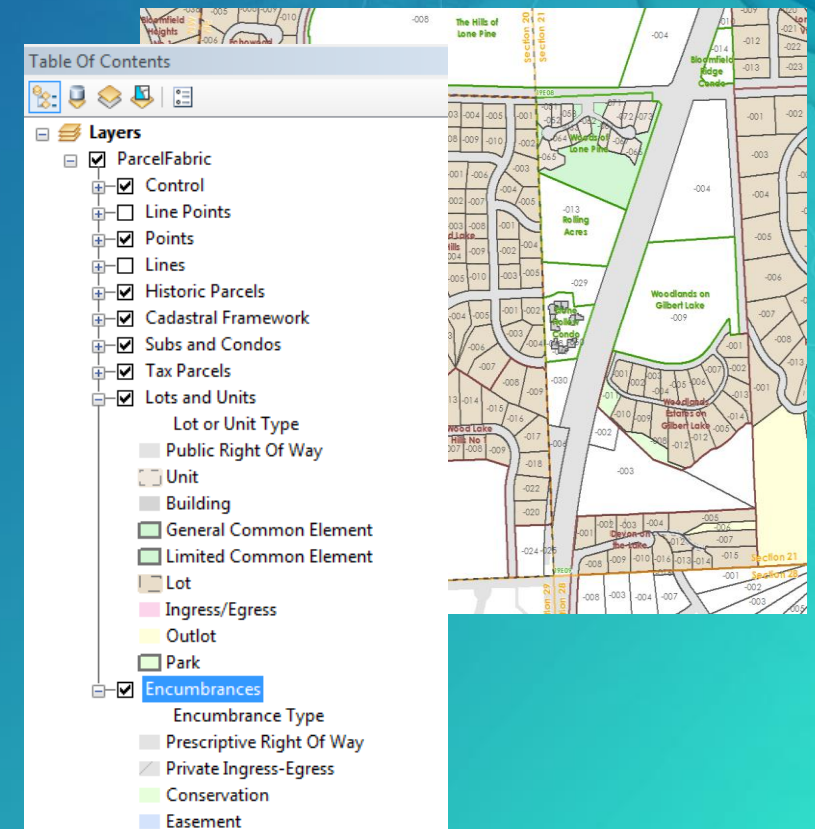
- Subdivisions, Lots, Tax Parcels, Historic parcels share common points



Local Government Information Model (LGIM)

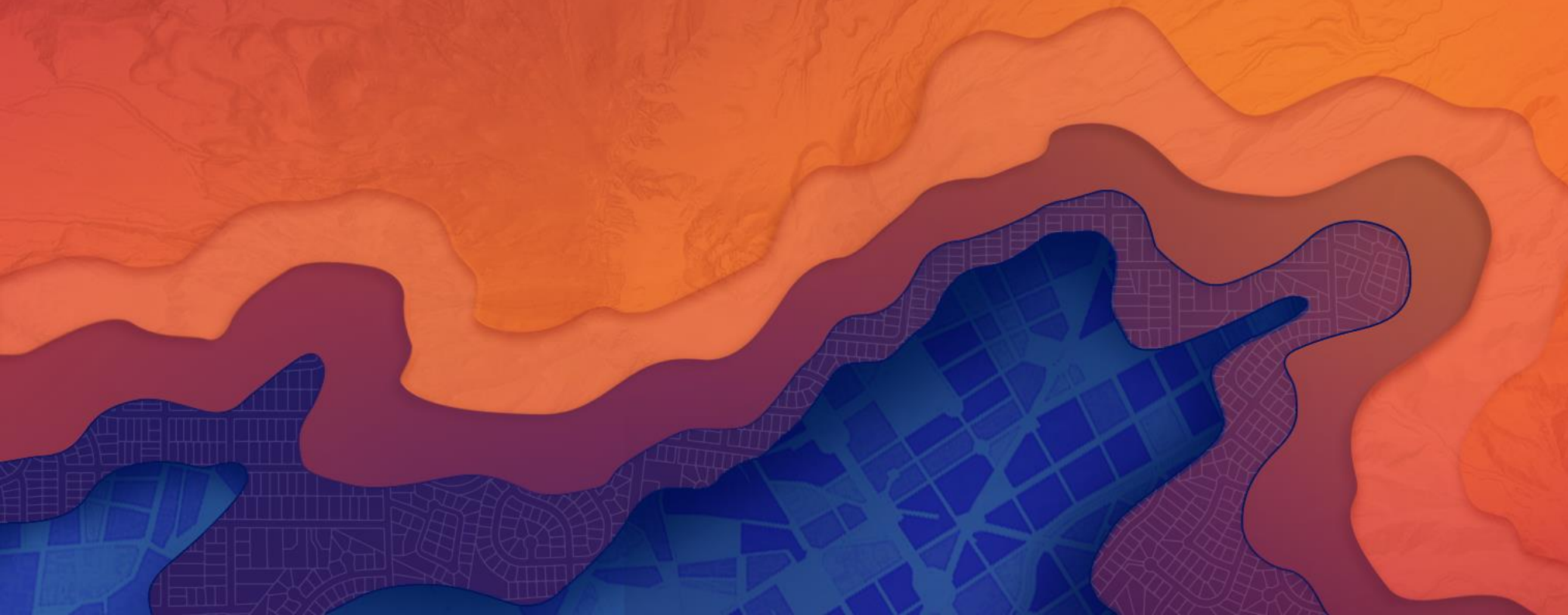
Parcel fabric data model

- Parcel fabric data model can be optimized for your organization
 - Add attributes, tables, definition queries
- In the USA, the LGIM is used
- Parcel fabric can be enabled with the LGIM
- Provides a configured layer for streamlined editing
- Provides automated parcel editing workflows

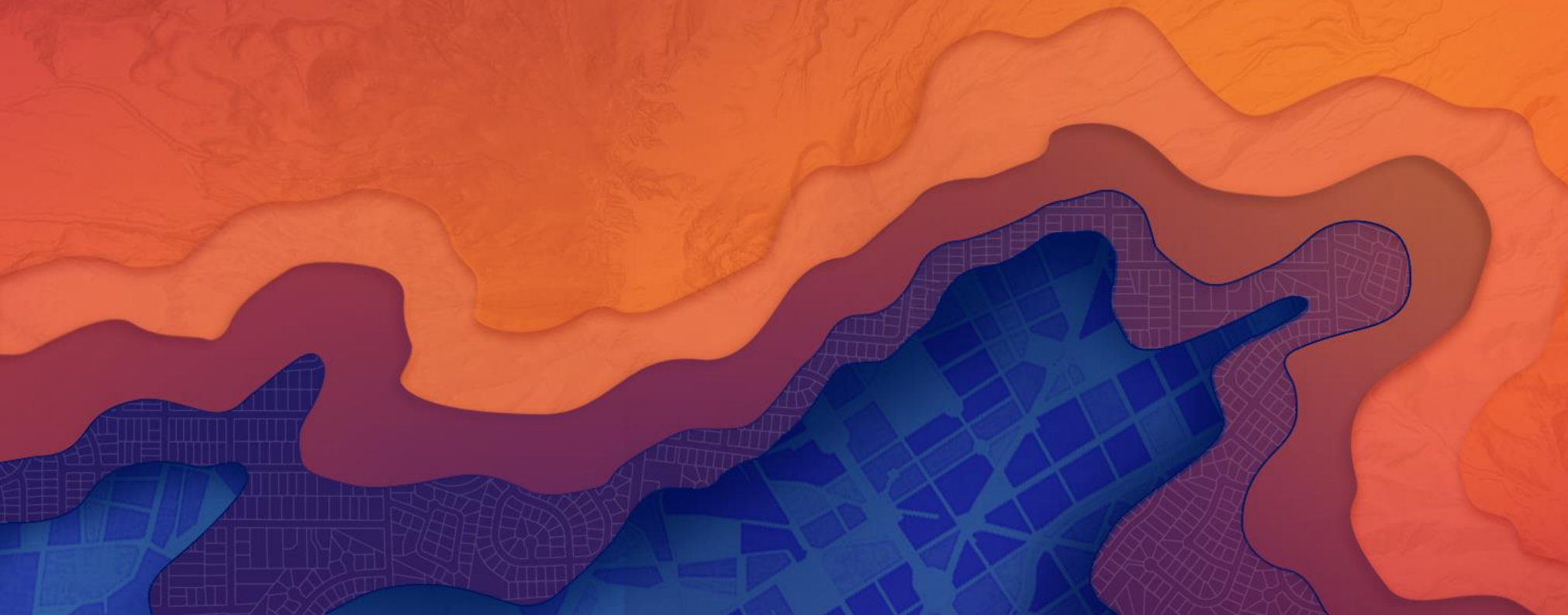


Demo: Data Model

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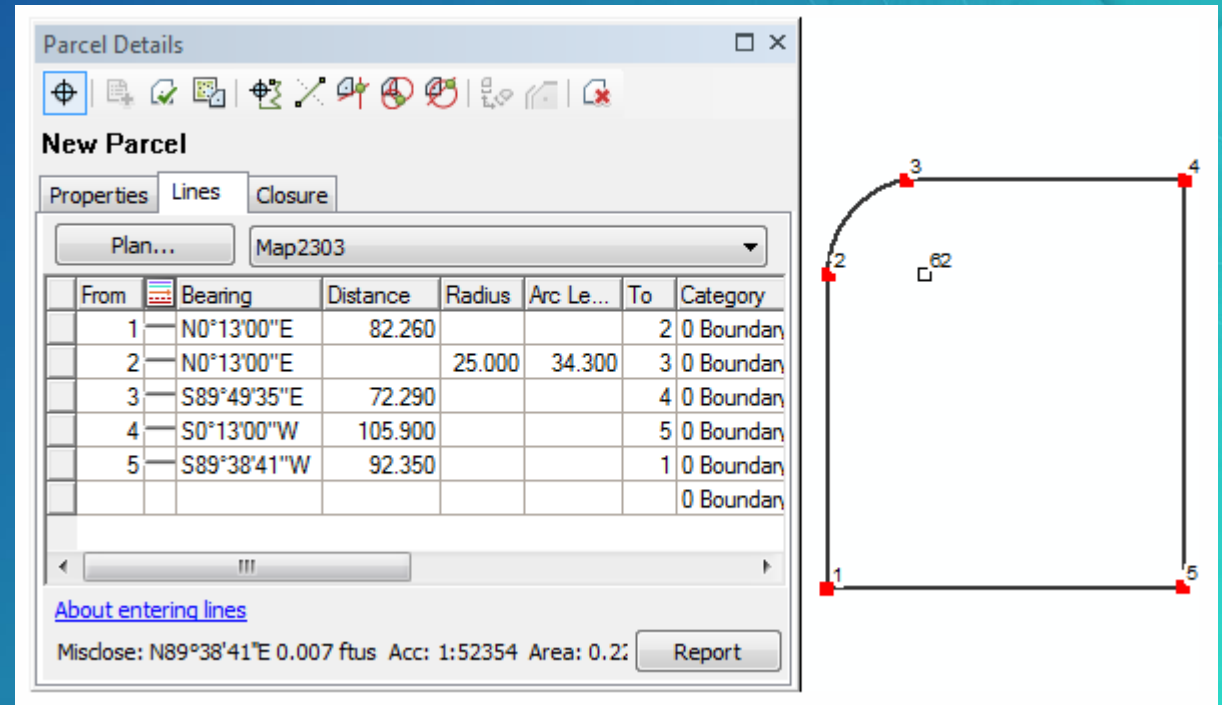
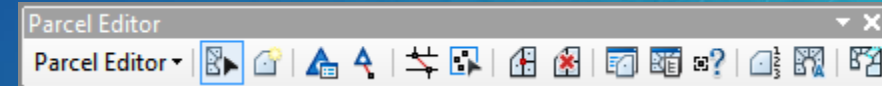
Parcel Editing



Parcel Editing

Create new parcels

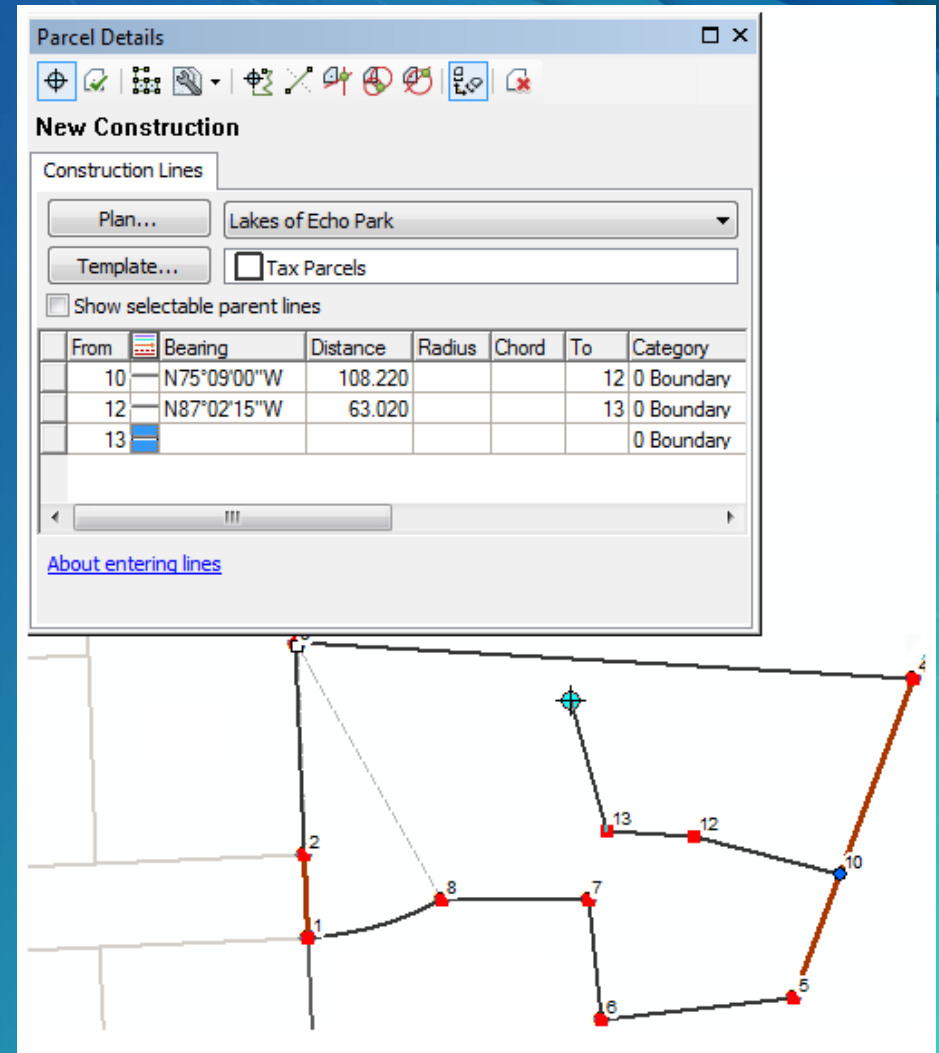
- Parcel Editor toolbar
- Parcel traverse
 - Primary method of creating parcels
- Construct from parent parcel
- Parcel division, merge, remainder
- COGO tools
- Parcel joining
 - Add new parcels to the parcel fabric layer



Parcel Editing

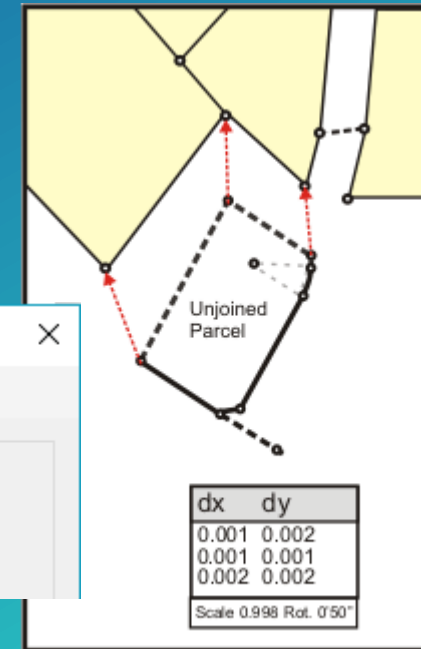
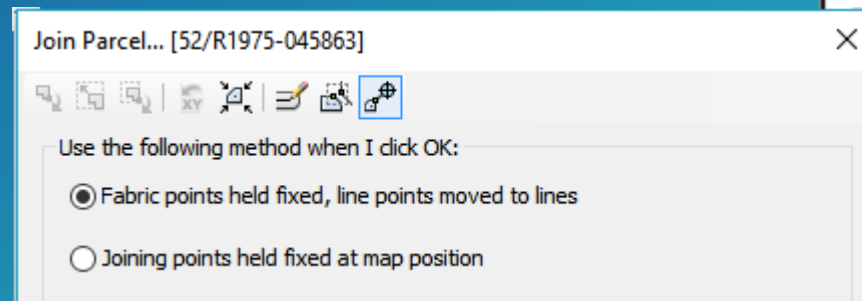
Construct new parcels

- Split parent parcels
 - Construct from parent
- Build parcels from construction lines
- Add or paste construction lines



Parcel joining

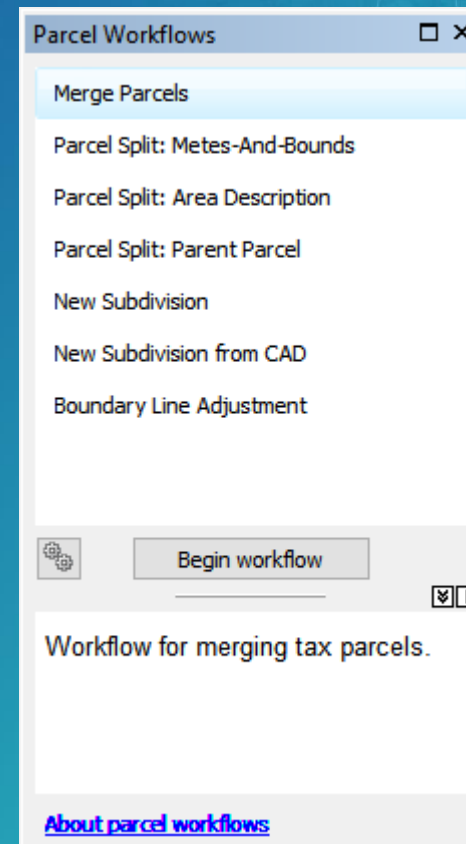
- New parcels are interactively joined to the parcel fabric layer
 - Parcels are cartographically matched to existing parcels
 - Minimizes slivers, gaps, overlaps
- Two join methods
 - Fit new parcel to surrounding parcels
 - Hold new parcel fixed and move surrounding parcels



Automated parcel editing workflows

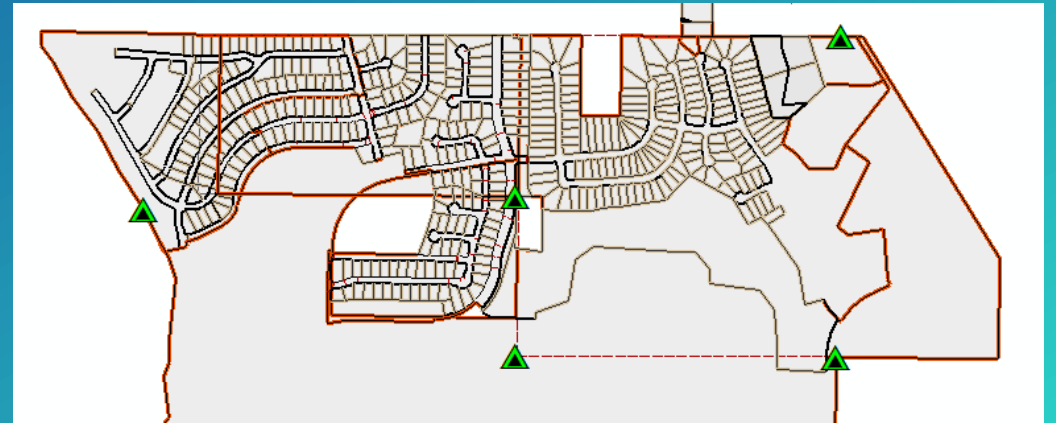
Local Government Information Model

- Common parcel editing workflows in local government
 - Parcel fabric must be enabled with the LGIM
- Workflows can be treated as guides/tutorials



Adjustments in the parcel fabric

- Least-squares adjustment
 - Adjust parcels to two or more control points
 - Parcel dimensions must match record dimensions
 - High degree of spatial accuracy
- Manual transform
 - Move/shift a selection parcels
- Feature adjustment
 - Align features to adjusted parcel fabric boundaries



Demo

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Parcel fabric summary

- Uses an optimized data model for parcel editing
- Preserves recorded information
- Maintains topology between parcels
- Maintains overlapping parcels
- Maintains historic parcels
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The Next Generation of Parcel Management



Esri will support parcel management in **future releases** of ArcGIS Pro. The new generation of parcel management will be of interest to customers who maintain cadastral records at any scale, **domestically and internationally**.

The new generation will introduce **2D/3D editing** capabilities and a simpler more efficient approach for parcel maintenance. The new generation of the parcel fabric can be **edited from the entire ArcGIS Platform** and maintained using the new improved editing functionality of ArcGIS Pro.

Existing customers will be able to **easily upgrade** their parcel fabric without having to re-migrate their data, thus saving their investment.

Please Take Our Survey on the Esri Events App!

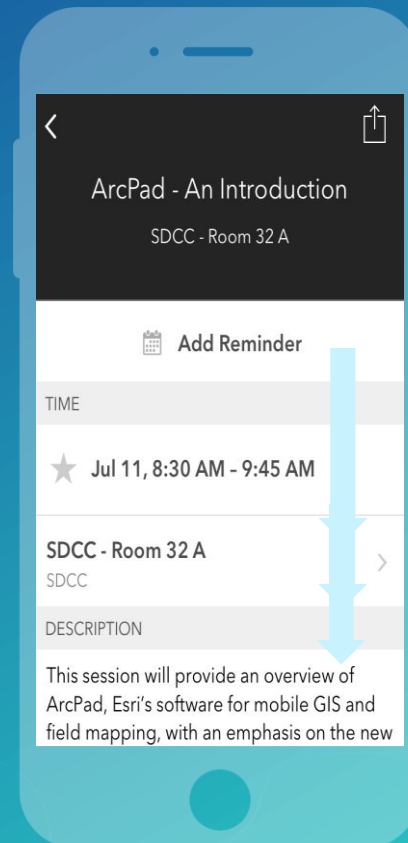
Download the Esri Events app and find your event



Select the session you attended



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Complete Answers and Select "Submit"





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