A Practical Guide to GIS in AutoCAD Civil 3D

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SU 18

ENGINEERING DESIGN SOLUTIONS

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Who am I…

- Rick Ellis

- Portland, Oregon

- Originally a CAD Manager and Civil Designer

- I've been teaching AutoCAD, Civil 3D, and AutoCAD Map since mid-90's

- Consultant

- Author

- 12 years teaching at AU

- Member of the Autodesk University Advisory Council
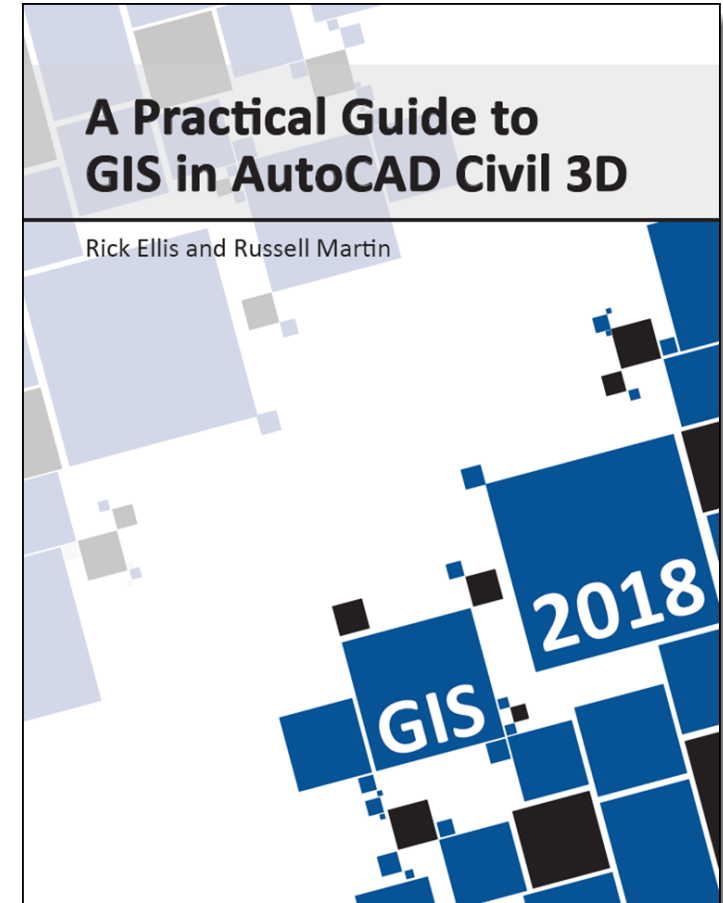
Who are you?

Handouts

- Download handouts for my classes
  - www.cadapult-software.com/su2018/

A Practical Guide to GIS in AutoCAD Civil 3D 2018

- This class is based on selections from this book.
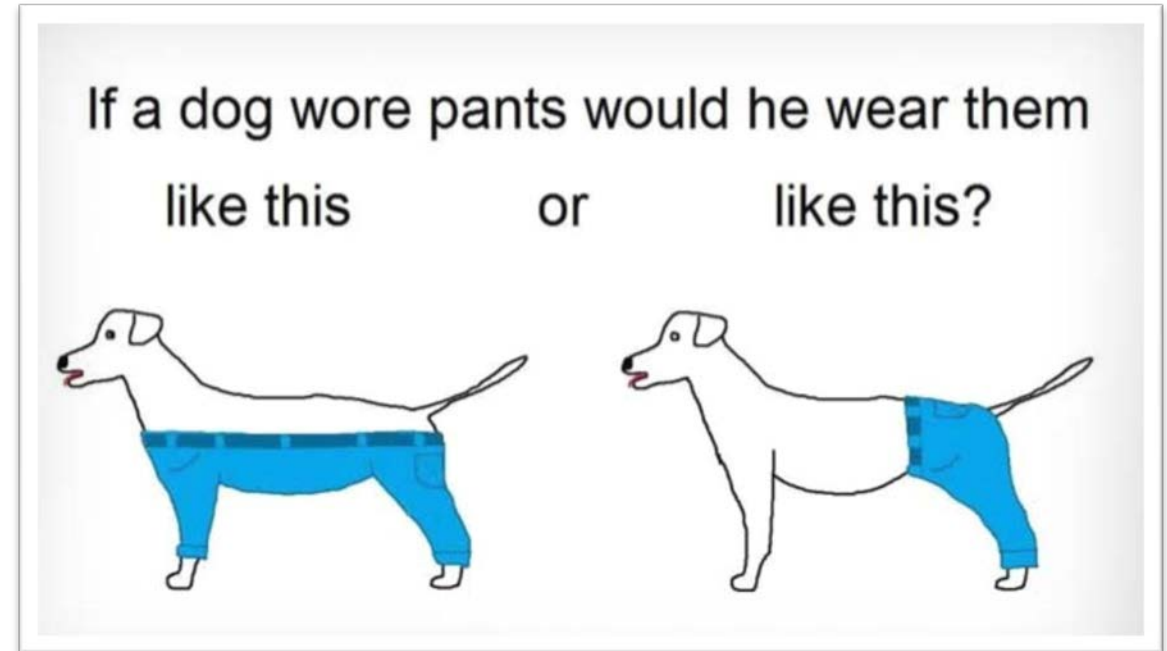
- www.cadapult-software.com/books

Course Agenda

- Introduction to GIS in Civil 3D

- Importing GIS Data from other Formats as AutoCAD Objects

- Label Objects with Annotation Templates

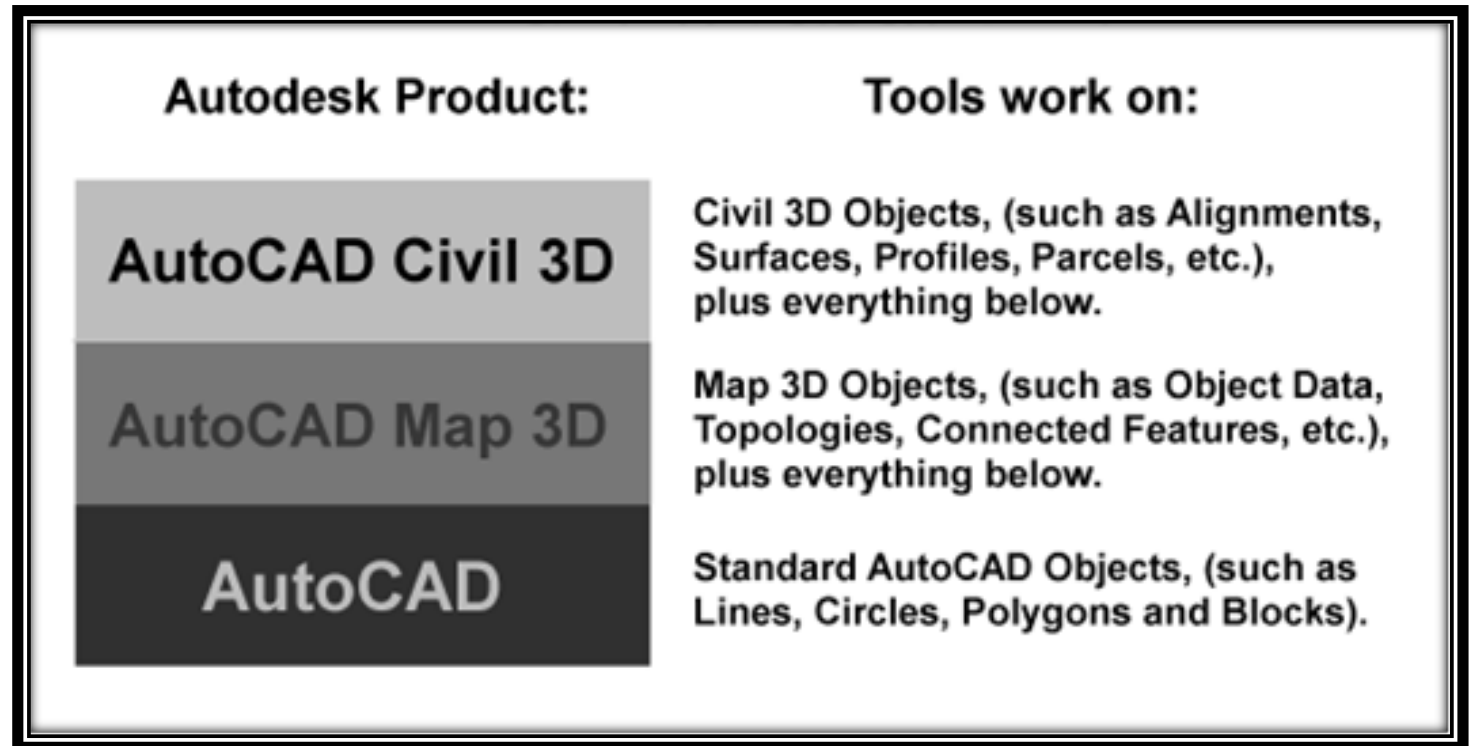- Importing GIS Data as Civil 3D Objects

- Connecting to GIS Data

What About Questions???

- Short time for questions at the end of each topic

- After the session

- Via email

If a dog wore pants would he wear them

like this   or   like this?

Introduction to GIS in Civil 3D

- It's really 3 programs in 1
  - So what data can I create and who can use it?

Autodesk Product:	Tools work on:
AutoCAD Civil 3D	Civil 3D Objects, (such as Alignments, Surfaces, Profiles, Parcels, etc.), plus everything below.
AutoCAD Map 3D	Map 3D Objects, (such as Object Data, Topologies, Connected Features, etc.), plus everything below.
AutoCAD	Standard AutoCAD Objects, (such as Lines, Circles, Polygons and Blocks).

Using GIS Data from other Formats

- Three ways you can bring GIS data into Civil 3D:

  - Importing GIS Data as AutoCAD Objects

  - Importing GIS Data as Civil 3D Objects

  - Connecting to GIS Data

- Important to understand how GIS data is structured

  - Feature Classes

Importing GIS Data as AutoCAD Objects

AutoCAD Civil 3D can import the following types:

- Autodesk SDF

- ESRI ArcInfo Coverage

- ESRI ArcInfo Export (E00)

- ESRI Shape file

- GML

- MapInfo MIF/MID

- MapInfo TAB

- Intergraph/MicroStation Design (dgn)

- OS (GB) MasterMap (GML 2)

- Spatial Data Transfer Standard (SDTS)

- Vector Product Format Coverage (VPF)

DEMO

Annotation Templates

Several types of data can be used to drive an Annotation Template. These include:

- Object Data
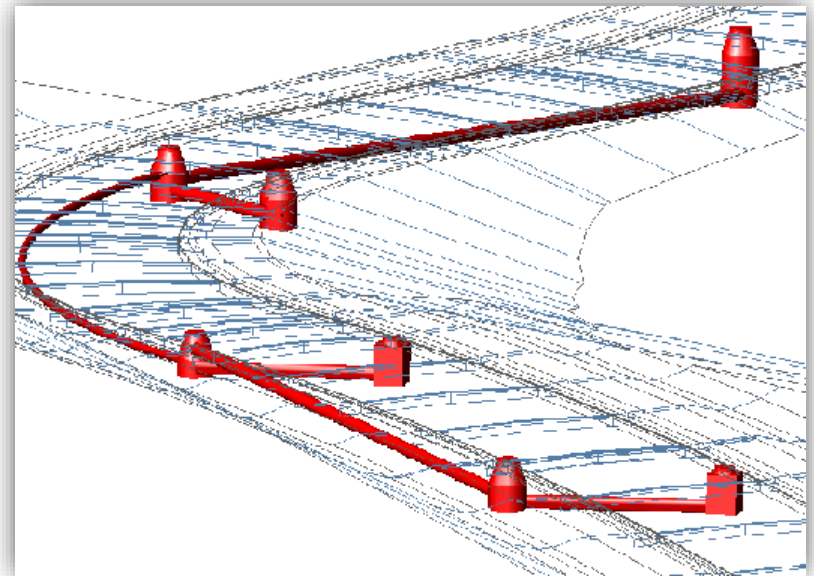- Linked data sources
- Object properties

Define Annotation Template → Insert Annotation → Update or Refresh

DEMO

Importing GIS Data as Civil 3D Objects

There are two types of Civil 3D objects that can be created directly from GIS data.

- Surfaces
- Pipe Networks

DEMO

Connecting to GIS Data

- Direct Connection

- Not an Import

- Creates Map Features not AutoCAD Objects

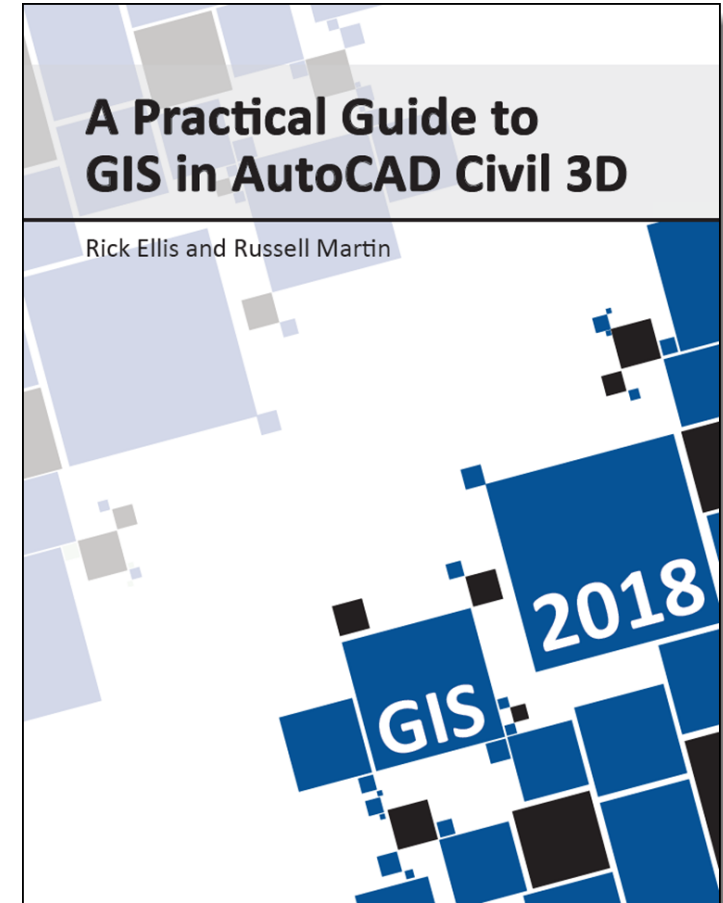- Stylized in the Display Manager

DEMO

Other useful GIS tools in Civil 3D

- Drawing Cleanup tools

  - Automate the process of cleaning many common geometry errors

- Thematic Mapping

- Dynamic North Arrows, Scale Bars and Legends

- Map Books

A Practical Guide to GIS in AutoCAD Civil 3D 2018

- This class is based on selections from this book.

- We have only scratched the surface of this topic.

- Get your copy at:

  - www.cadapult-software.com/books

Still have Questions???

- Via email

  - rick@cadapult-software.com

- Talk to me here at the conference

Thank you for your time and attention!

Rick Ellis
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