Semi-Automated PLS_CADD Model Creation

Purpose:

- To rapidly produce an As-Built PLS_CADD Model of an existing line based on:
  - GIS data
  - USGS terrain data
  - PLS-Pole library of typical structures

Caution:

- This procedure only uses information derived from GIS data and is therefore not as accurate as survey generated data.
- Therefore, to increase the level of model accuracy, the integration of survey LiDAR data is required.

What you need:

1. USGS Terrain data
2. GIS data
   a. .xls file (Lat-Long coordinates, etc.)
   b. .dxf file (PI alignment & graphical GIS data, structure / framing types)
3. PLS-Pole Library
   a. Structure naming convention to match .xls data

Procedure:

1. GIS Data Preparation
2. PLS-CADD Setup and Coordinate Import
3. Alignment Creation
4. Import USGS Terrain Data
5. Auto-Spot Structures
6. Create "Site-Specific" structures

GIS Data Preparation:

1. Obtain GIS spatial data in .xls file
   a. Arc Map → .xls
2. Transform GIS spatial data from .xls into .csv (PLS friendly) format using Excel
   a. .xls format → PLS formatted .csv
3. Convert GIS .dgn file to .dxf format

PLS-CADD Setup & Coordinate Import:

1. Create new PLS-CADD model (.xyz)
2. Define project coordinate system
3. Set Preferences
4. Load settings file (.fea & .cri)
5. Attach useful reference files (.dxf)
6. Import GIS coordinates (.csv)

Alignment Creation:

1. Identify the first PI
2. Terrain → Alignment → Automatic Alignment
3. Correct any alignment errors
4. Make note of the station value for the last PI

Import USGS Terrain Data:

1. Terrain → Edit → Merge Points from External File → Merge points from xyz file
2. Select terrain file that corresponds to project location
3. Select check box to filter points
4. Fil in the Filter dialog box as appropriate
5. Create a TIN
6. Adjust elevation of PLS

Auto Spot Structures:

1. Structures → Automatic Spotting → Spot by Feature Code
   a. From Station = leave as default
   b. To Station = enter last station value as noted
   c. Select "From Plan Comment" in the Name of structure spotted
2. Structures with corresponding models in the "Existing Structure" folder will automatically appear.

Auto Spot Structures (cont.):

3. View error report to determine which structure still needs to be modeled, in case structures are missing
4. Renumber the structures as required

Create "Site Specific" Structures:

1. File → Preferences
   a. Change the "Setting for Project" file paths to point to your project location
   b. Structures → Customize Structures → Make Site Specific Copies
   c. Select the entire range of project structures

Finished:

1. PLS-CADD model creation complete using:
   a. USGS Terrain data
   b. GIS data
   c. PLS-Pole Library