Reliable and accurate data on the location and depth of utilities, and a storage system from which to retrieve the data, is necessary for efficient and cost-effective project delivery. Utility data is frequently not stored in accessible formats so that it can be saved and reused for future projects, causing agencies to recreate the data. A system is needed to store and retrieve utility data using enterprise technology that works with existing agency databases and systems.

Goal is to get company submitted data, SUE locates, utilities from surveys and field verification all into a GIS environment that can be easily viewed in multiple sources (Webmap, ArcMap, MicroStation)
- SHRP2 Utility Database
- Requires ArcGIS Online account
- Convert MicroStation surveys to GIS format. Web Viewer
- Allows for field collection via the Collector app
- Survey grade x,y,z still being worked on. Testing Emlid RS2
What’s Next?

- Acquire Emlid RS2 as a cost effective ($2,000) method of collecting survey quality data through Collector.

- Get some regulations and requirements in place when facilities go in our right of way. Currently we have very little idea what resides on our own property.
Software Products Used

- ArcSDE (ESRI)
- ArcGIS Server (ESRI)
- ArcGIS Online (ESRI)
- Collector for ArcGIS (ESRI)
- Web App Builder (ESRI)
- Web Scene Viewer (ESRI)
- FME (Safe Software)
ArcSDE

- Single SQL Server Database that contains a 1-1 match between CADD levels and SDE feature classes
- Points, lines, polygons
- Z Values enabled
- Attachment Enabled
- Editor Tracking Enabled
ArcGIS Server

- Single secured service for accessing all assets within the database
- Uses REST API to view and edits layers that are stored within the SQL Server database
Mobile/SHRP2_Ext_Mob_Prd (FeatureServer)

View In: ArcGIS Online map viewer

View Footprint In: ArcGIS Online map viewer

Service Description: SHRP2 3D database for collecting utility information

Has Versioned Data: true

MaxRecordCount: 1000

Supported Query Formats: JSON, AMF

Supports Query Data Elements:

Layers:
- WL - Water Line (0)
- WT - Water Tower (1)
- WW - Water Well (2)
- WM - Water Meter (3)
- WS - Water Spigot (4)
- WV - Water Valve (5)
- CIST - Cistern (6)
- CBI - Curb Box Inlet (7)
- FH - Fire Hydrant (8)
ArcGIS Online (AGOL)

- ESRI’s cloud environment
- Allows for easy hosting of data and applications
- Contains many simple out of the box tools to create effective workflow
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<tr>
<td>SHRP2 Basemap</td>
<td>Map Image Layer</td>
<td>Oct 17, 2018</td>
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<tr>
<td>SHRP2 - Scene</td>
<td>Web Mapping Application</td>
<td>May 10, 2019</td>
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<tr>
<td>SHRP2 - DGN</td>
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<td>SHRP2 - Scene</td>
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<tr>
<td>SHRP2 - Coordinator New</td>
<td>Web Map</td>
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Mobile data collection / editing tool designed to be used in the field

Allows for online and offline use

Allows users to view reference information along with asset information
Web App Builder

- ESRI’s platform for building interactive maps
- Helps streamline workflows in an easy to use online format
- Access all data through a web browser (No local client install)
Web Scene Viewer

- A cloud based 3D viewer
- Access all data through a web browser (No client install)
FME

Software that handles the data conversion from CADD to GIS

Allows authorized users to input DGN design files into the database through a simple website
Contact Info

- Mitchell Masarik
- Mitchell.Masarik@ky.gov
- 502-782-3718