CITY OF KINGSPORT, TN

- 550+ miles of sewer
- 50,000+ citizens
- 21 wastewater collections employees
- $1.85M operating budget
MAPPING | PRIOR TO 2015

- 1990s–digitized the utilities from mylar maps and aerial photography
- New or replaced infrastructure from as-built CAD drawings
- Existing assets updated by data collector
FIELD WORK | PRIOR TO 2015

Work documented through financial system: land based

Map from a third-party map services application
MAP CHANGES IN THE FIELD | PRIOR TO 2015
OPERATIONS AND MAPPING | TODAY

• Easy access to existing asset information, for viewing and editing
• Ability to change background maps
• GPS locator on iPad helpful in finding assets
• Create new assets on the fly
CCTV CREWS—FOUND NEW MAINLINE

Expected to find 2 manholes and 1 mainline, however found 3 manholes and 2 mainlines

PRE-2015

• Take paper map, sketch changes
• CCTV-ID the new mainline and manhole as ID#0
• Paper map cleanup, email to GIS
• GIS process changes, create ID #s
• Edit CCTV records with correct IDs
• 30 minutes, 4 people

TODAY

• Add assets to mapping in field
• Get ID #s on the spot
• 5 minutes, 1 person
FROM PAPER TO PLATFORM: BENEFITS

- Ownership of data by field crews
- More complete documentation for supporting asset records
- No lost or forgotten edits, knowledge shared for all
- Time savings
GIS SOFTWARE UTILIZED

• ArcSDE Enterprise Geodatabase
• ArcGIS for Server publishing feature services and cached base maps
• ArcGIS Online for user sign on, tools and base maps
• ArcMap for editing and QA by GIS Analyst
ASSET MANAGEMENT SOFTWARE

- Linked to GIS Enterprise Geodatabase by feature services published with ArcGIS for Server
- Asset Management DB and GIS GDB are synchronized
- ArcGIS Online for user sign on, tools, and base maps
QUALITY CONTROL OF DATA COLLECTED BY FIELD PERSONNEL IS REQUIRED

- GIS Analyst must review all data from AssetApp version before its posted to DEFAULT.
- DEFAULT version’s access level should be set to protected.
- QA version from DEFAULT. The QA version is maintained by a GIS Analyst/data quality manager that regulates edits that are applied back to DEFAULT.
- AssetApp version from the QA version. The AssetApp version is published as a feature service via ArcGIS for Server for use by the Asset Management application.
KEY POINTS ON GIS-ASSET MANAGEMENT INTEGRATION

• Recommend using Enterprise Geodatabases i.e ArcSDE
• ESRI Enterprise License Agreement
• Versioned Geodatabase Workflow
• GIS Analyst to manage versioned workflow
• ESRI training if you are new to ArcSDE, Versioning and ArcGIS for Server