BILLING SYSTEM INTEGRATION WITH WORKFORCE: SOFTWARE DESIGN AND DEPLOYMENT

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ABOUT GMWSS

- 14,000 customers
- Water and Sewer Service
- Central Kentucky
- Continued growth
- History of using technology
GMWSS AND GIS

- History of the GIS system
  - Started about 2003
  - Daryl Mulder and Fred Ballard
  - ArcReader
  - ArcGIS Online – 2016/2017
WORKORDERS AT GMWSS

• 800 work orders per month
• Paper work orders
• Tried emailing work orders
• 2017-SSI (Billing System) & ArcGIS Online integration
• July 2018-started project
• November 2018-deployment
WHY INTEGRATE BILLING SYSTEM WITH WORK ORDERS?

- Eliminate paper work orders
- Small-Mid-size utilities (3,000-20,000 taps)
- Use existing software assets (Billing and GIS)
- Add mobile dispatch
- Use the best pieces of Billing Software and ESRI software
In the Office:

• Create work orders in billing software (as usual)
• Send work orders to ArcGIS Online WorkForce
• Color-coded (blue ready to send out; green ready to import)
• Newest update to SSI will be integrated without this additional software
WORKFLOW

In the Field

• Workers receive assignments
• Respond to assignments
• Take notes and photos
• Link to Survey123 to collect additional data
• Complete assignment
WORKFLOW

In the office

• Import completion notes into the billing system

• Use dashboards to access additional data collected in Survey123 and WorkForce
  • New meters and meter change outs
  • Final readings
  • Backflow to be added soon
ADVANTAGES

• Good communication of information (status of work orders is known)

• No paper to get lost

• Field notes entered electronically and entered automatically into billing system (no handwriting issues)

• Linked to Survey123

• Use Dashboards for data display

• Provide spatial reference for office and field personnel
EXTENDING THE USEFULNESS OF ESRI WORKFORCE

- Batch creation of work orders
- Easily create the same type of work order multiple times for different meters/ hydrants/volces
- Use for high or low meter readings, hydrant flushing, valve exercising, inspection of assets
EXTENDING THE USEFULNESS OF ESRI WORKFORCE

• WorkForce is designed for a limited number of records (it starts to slow down at 5,000 + records)
• Need a way to archive (synchronize) work orders for storage
• Must include the archive of pictures
• Must link pictures to appropriate work order
EXTENDING THE USEFULNESS OF ESRI WORKFORCE

• After archiving work orders need to delete them from the WorkForce project
INTEGRATION WITH SURVEY123

- Use Survey123 to collect additional data
- WorkForce has limited fields
- Use Survey123 for analysis
USING DASHBOARDS

- Used in the office
  - For extended data entry into billing system
  - Used by management to summarize activities in the utility at board meetings
  - Used by supervisors to track work performed and any overdue work orders
- Designed depending on use and requirements of personnel
- Can select date ranges or staff member to filter data
GMWSS DEPLOYMENT

- Trained Supervisors and Management in early November 2018
- November 14, 2018 – training for field and office personnel
- November 15, 2018 – went live
- No more paper work orders
RESPONSE FROM GMWSS PERSONNEL

- No complaints
- Field operators
- Customer service
- Supervisors
- Managers
- Survey123 and Dashboards
Number of Work Orders to Check for Leaks in: 102
Number of Main Line/Service Line Leaks Repaired in Selected: 12
Number of Water Quality Work Orders in Selected: 24
Number of Pressure Checks in Selected Date: 6
Number of New Taps Added During Selected Date Range: 48
Number of Lids Replaced in Selected Date Range: 10
Number of Yard Repairs in the Selected: 5
Number of Cut Offs in Selected Date: 2
Number of Meter Change Outs in the Selected Date Range: 2
Number of Work Orders Completed in the Selected Date Range: 1,574
Number of Over Due Work Orders: 15

Work Orders Completed by Month:
- Nov: [Bar Graph]
- Dec: [Bar Graph]
- 2019: [Bar Graph]
THANK YOU

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