CONSTRUCTION DESIGN USING CORE ESRI

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OVERVIEW

- **Company Profile**
- **Designer**
- **Drivers for Change**
- **Future State Solution**
    - **Project Management**
        - **Folder Structure**
        - **Design Feature Classes**
        - **Custom Tool**
    - **Core ESRI**
        - **Page Template**
        - **Data Driven Page**
        - **Custom Tool**
        - **CU Summary**
    - **Maximo**
        - **CU Estimating Application**
- **Q & A**

THE LACLEDE GROUP

Largest Missouri natural gas local distribution company
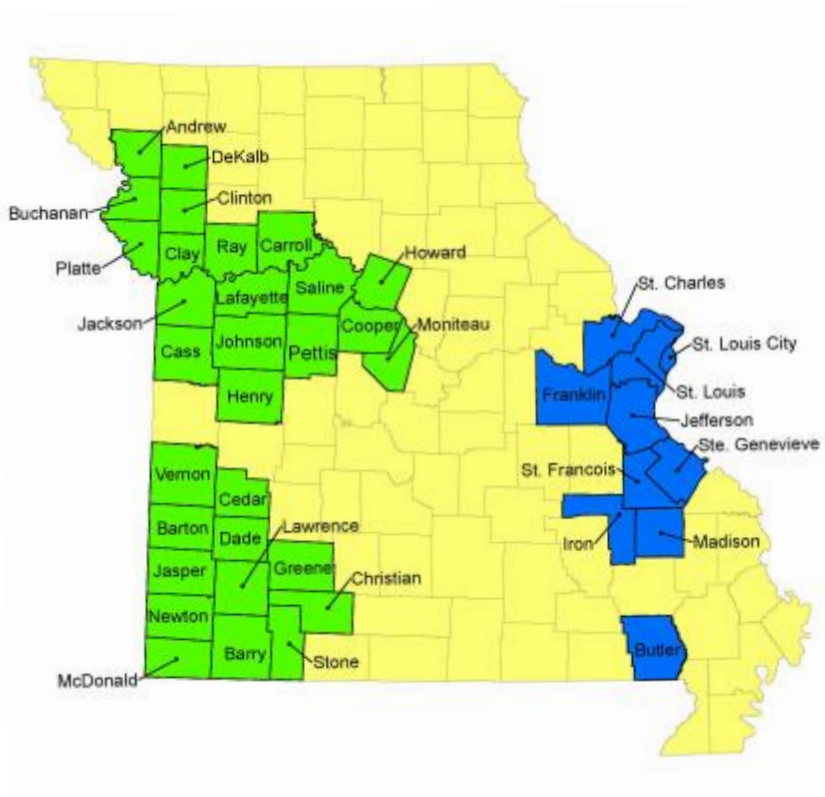
Laclede Gas Company

- **St. Louis**
- **640,000 customers**
- **11 counties**

Missouri Gas Energy

- **Kansas City & Joplin**
- **510,000 customers**
- **30 counties**

CURRENT STATE

Telvent Designer

- **Work Flow Manager**
- **Construction Drawing**
- **Cost Estimate CU's**
- **Bill of Material**
- **Complete Life Cycle <u>Not Used</u>**

Custom Tools

- **Capital Work Order Cost Report**
- **Work Order Package**

DRIVERS FOR CHANGE

NewBLUE Project

- **Maximo, Oracle CC&B, Supply Chain and Financials, PowerPlant**

Implement Maximo Spatial

- **Leverage Maximo Where Possible**
  - **Manage Work Order Life Cycle**
  - **Utilize CU Engine**
  - **Bill of Material**
  - **Work Order Cost Report**
- **Leverage Core Esri Where Possible**
  - **Reduce Versions**
  - **Eliminate use of Telvent Designer**

IDENTIFYING THE GAPS

Work Process	Current State	Future State
PROCESS GAPS		
Project Management	Workflow Manager	FGDB, Custom Tool
Construction Drawing	Designer	Esri Core
Cost Estimate	Designer	Maximo
Work Order Package	Custom Tool	Modify Custom Tool
NO GAPS		
Bill of Materials	Designer	Maximo
Cost Report	Custom Tool	Maximo

FUTURE STATE SOLUTION

Developed to leverage the Maximo Enterprise Asset Management and GIS.

Four Core Components

- **Project Management**

- **Core ESRI**

- **Custom Tools**

- **Maximo for Cost Estimating**

PROJECT MANAGEMENT
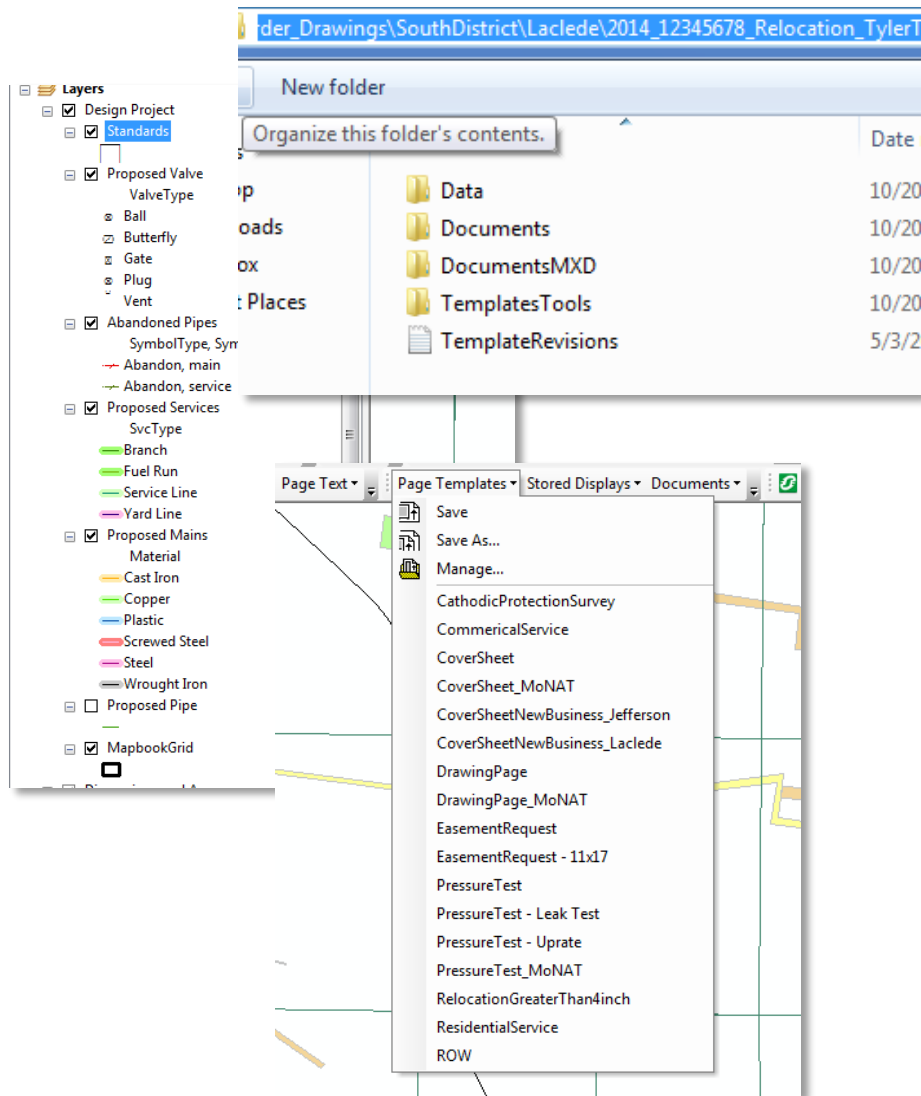
- Different Data Storage than Designer
  - Eliminated versions for Designs

- Moved to file geodatabase in a network folder structure

- Stored Displays and Page Templates stored in File Geodatabase (ArcFM)

- Custom Design Feature classes
  - Standards
  - Proposed Valves
  - Proposed Mains
  - Map Book Grid

- Supplemental tools also stored in folder structure.

- Customizable to apply to across business units

PROJECT MANAGEMENT - CUSTOM TOOL

Create Project Folder – Allows user to designate Region, District, Year, Work Type, Project Name, and WO number. Copies master project folder to defined folder directory with unique folder name.
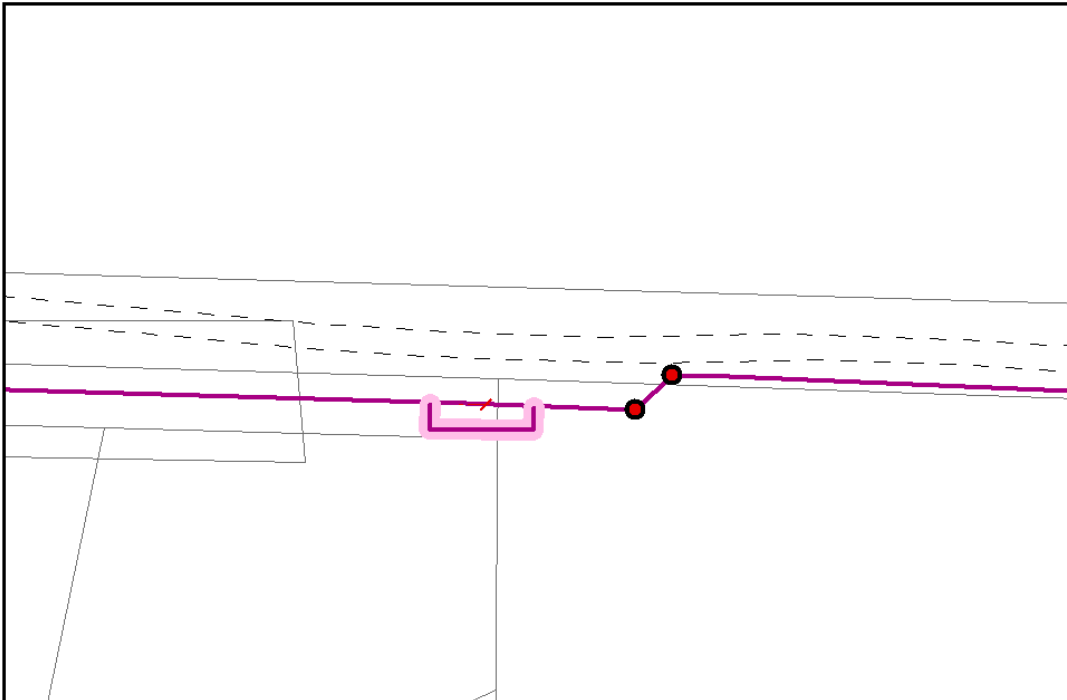
CORE ESRI

ESRI core tools to create and complete construction designs. Able to Leverage Construction Drawing Process across Business Units.

- **Customized Page Templates** – Covers all job types: New Business, Relocation , Replacements, Commercial and Residential Services, and other Supplemental exhibits. Stored in file geodatabase and ArcFm toolbar.

- **Data Driven Pages** – Core ESRI tool. Helps with multi-page designs. Driven off of Map Page Grid polygon feature class.

- **CU Summary** – Calculates the total installed and abandoned pipe footage from the Proposed Pipe Feature Classes. Report used to build CU estimates in Maximo.

CORE ESRI – PAGE TEMPLATES

Page Templates – Stored in File Geodatabase. Covers all the job designs types (Relocation, Replacement, New Business, Commercial and Residential Services)

CORE ESRI – DATA DRIVEN PAGES

- Allows for multipage designs to be stored in one MXD

- Driven by the MapbookGrid Feature Class

- Calculates page order by OID using the Mapbook Grid Updater tool
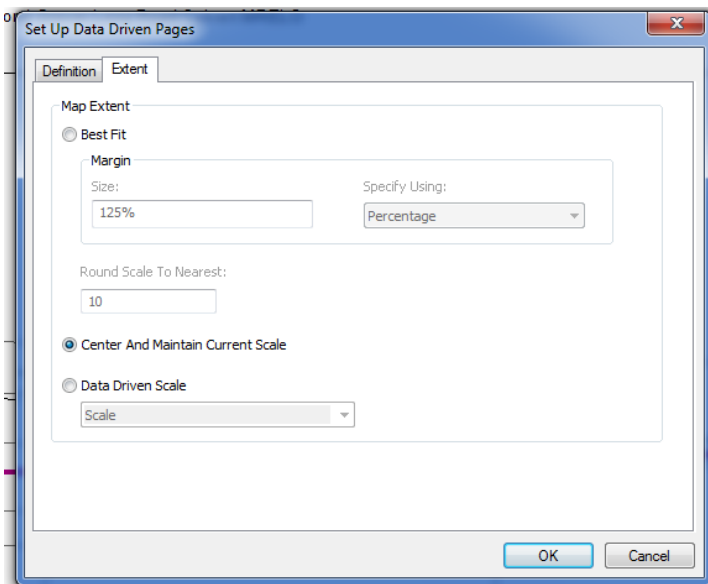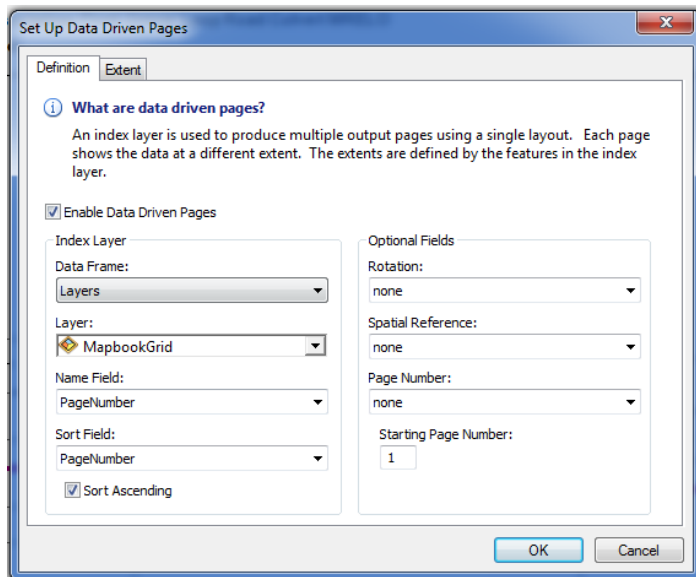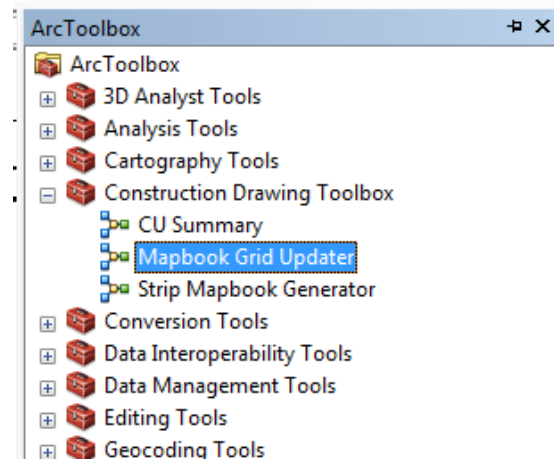
CUSTOM TOOLS

WO PDF Create – Combines the Cover, Drawing, and Pressure to WO Drawing PDF. Automatically saves in "Documents" folder in the project folder structure designated by the WO polygon.
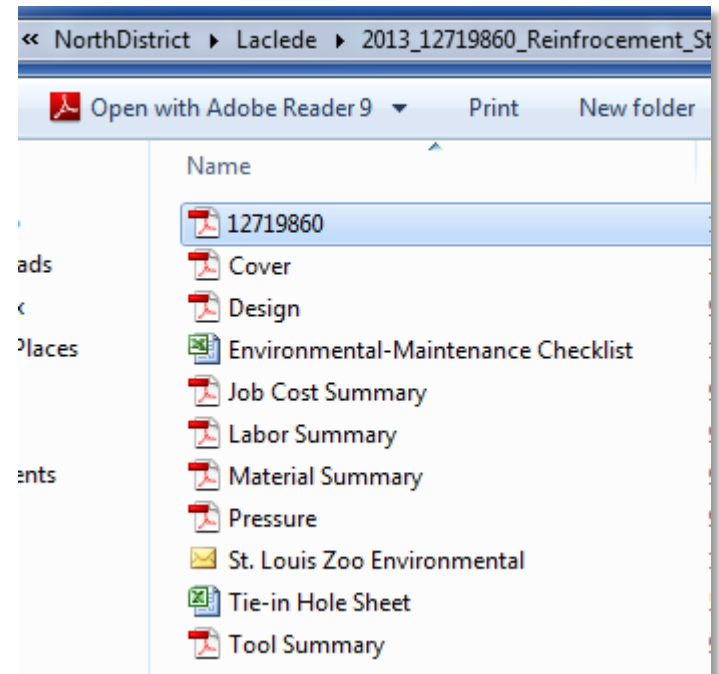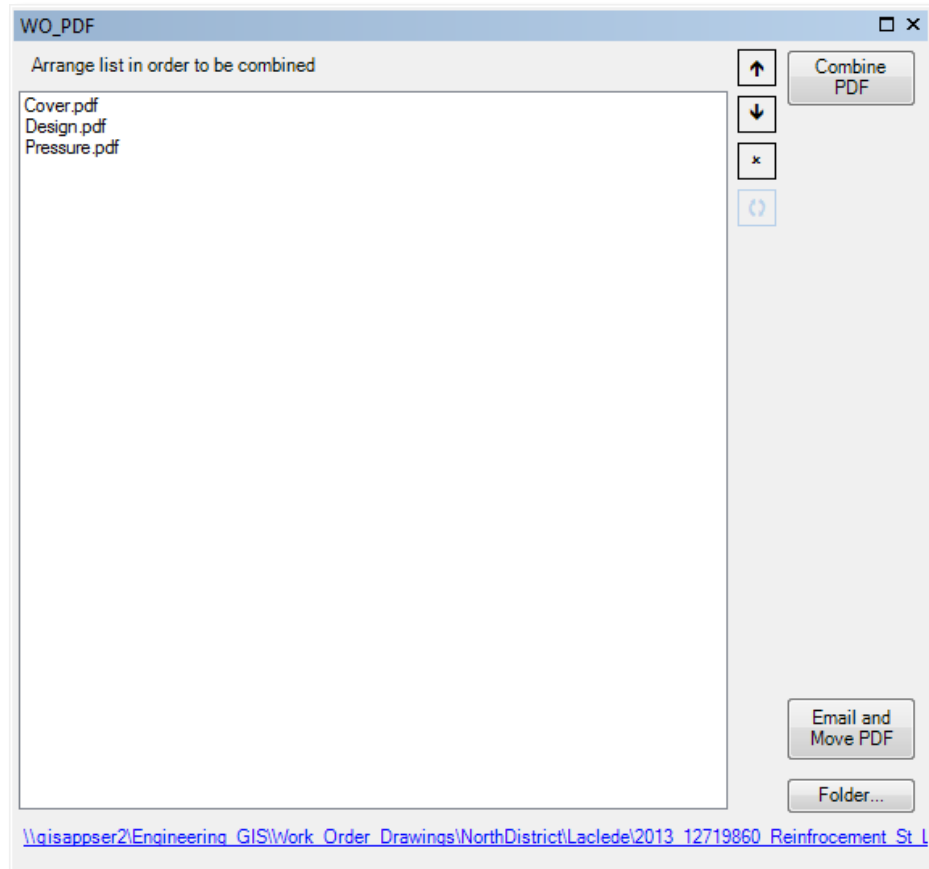

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CORE ESRI – CU SUMMARY

- Computes total installed and abandon footage for proposed mains and services

- Totals number of valves by size and material

- Totals standard numbers for CU estimate

- Generates Report with all three components

CU Summary Report

Feature Class	Type	Quantity	Description	Vintage
Pipes				
	ABANDON	20	10 CI LP main	1912
	ABANDON	412	12 CI LP main	1955
	ABANDON	1410	24 CI LP main	1896
	ABANDON	628	3 CI LP main	1890
	ABANDON	20	3 PL LP main	2000
	ABANDON	1992	4 CI LP main	1890
	ABANDON	363	4 CI LP main	1904
	ABANDON	2472	4 CI LP main	1905
	ABANDON	120	4 CI LP main	1910
	ABANDON	812	6 CI LP main	1890
	ABANDON	53	6 CI LP main	1903
	ABANDON	44	6 CI LP main	1904
	ABANDON	728	6 CI LP main	1905
	ABANDON	20	6 CI LP main	1906
	ABANDON	1408	6 CI LP main	1910
	ABANDON	573	6 CI LP main	1912
	ABANDON	34	6 CI LP main	1914
	ABANDON	32	6 CI LP main	1924
	ABANDON	925	6 CI LP main	1925
	ABANDON	175	6 CI LP main	1955
	ABANDON	54	8 CI LP main	1912
	INSTALL	7015	2 PL IP main	
Standard				
	15631	7	2 IP	
	15695	3	2 IP	
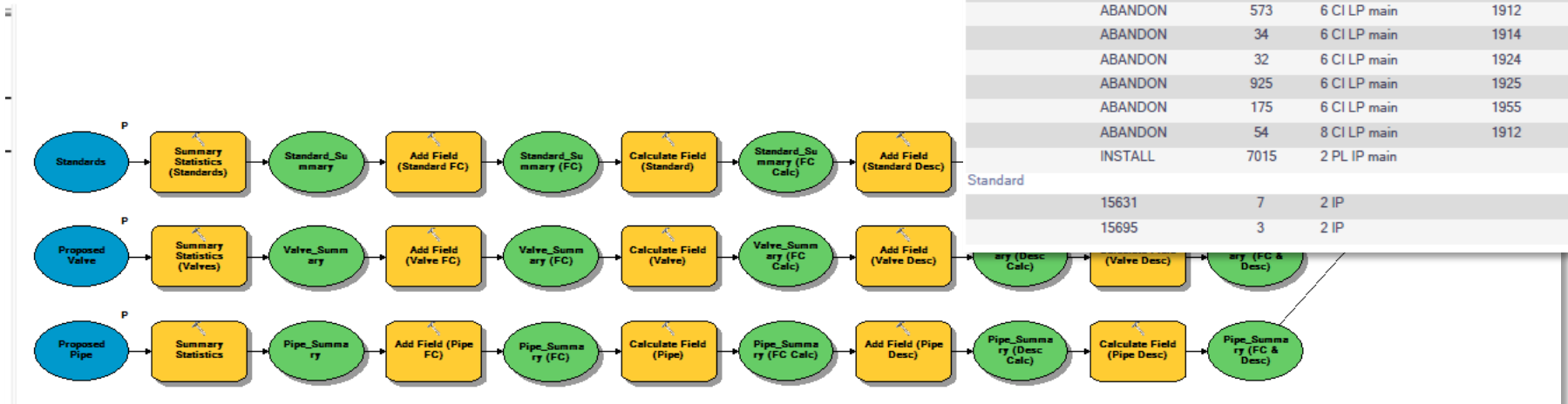
MAXIMO

Maximo is the owner of the WO lifecycle. Jobs are estimated using the CU Estimating Application. Estimates are built using the CU Summary Report and Standards Manual.

SUMMARY

Leverage Maximo

- True Work Order Life Cycle for Company

- Eliminated maintenance of CU's

- Eliminated Reporting Requirements for GIS Group

Leverage Core Esri

- Reduce Versions – 800 > 40

- Cost Savings – 25 Designer licenses

- Cost Savings – Cost to integrate Designer to Maximo

Q&A

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