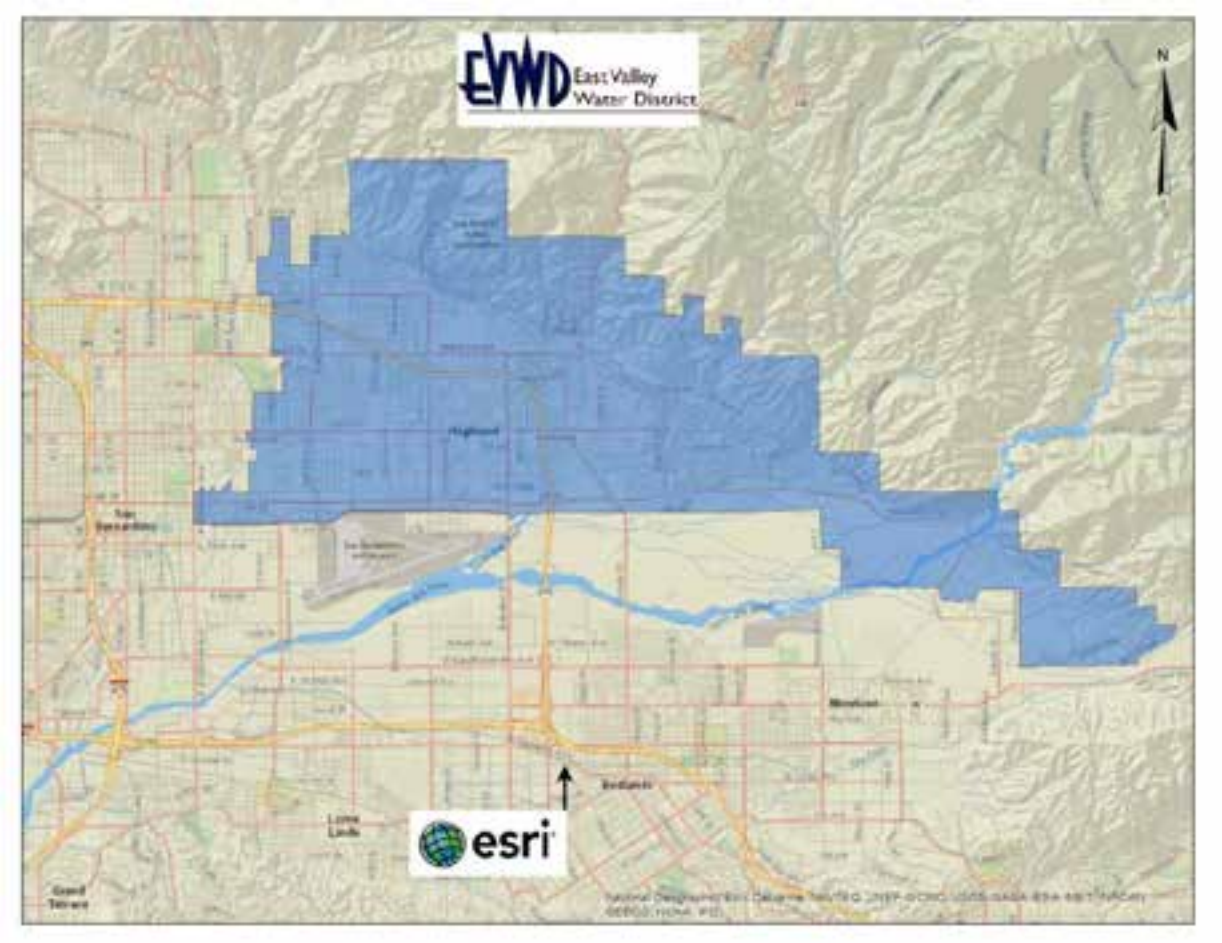
Esri Pacific User Meeting
CA / HI / NV
November 21, 2013 | Redlands, CA

THE BENEFITS OF A STRATEGIC PLAN

Leida Thomas

Bruce Miller, GISP

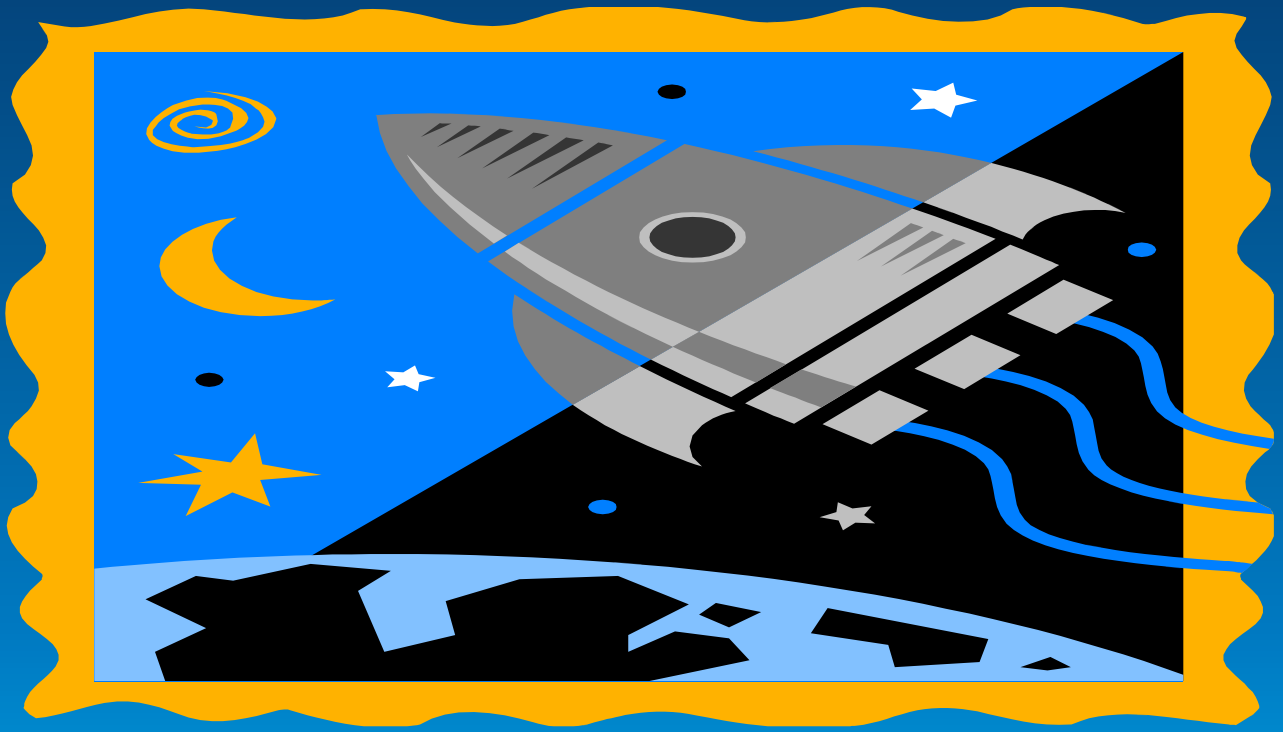
WHERE ARE WE?



EAST VALLEY WATER DISTRICT

- 32 square mile service area
- 90,000 customers
- 295 miles of water mains
- 203 miles of sewer mains
- 30 well, booster, reservoir, treatment plants

IN THE BEGINNING – 2001 A SPATIAL ODYSSEY

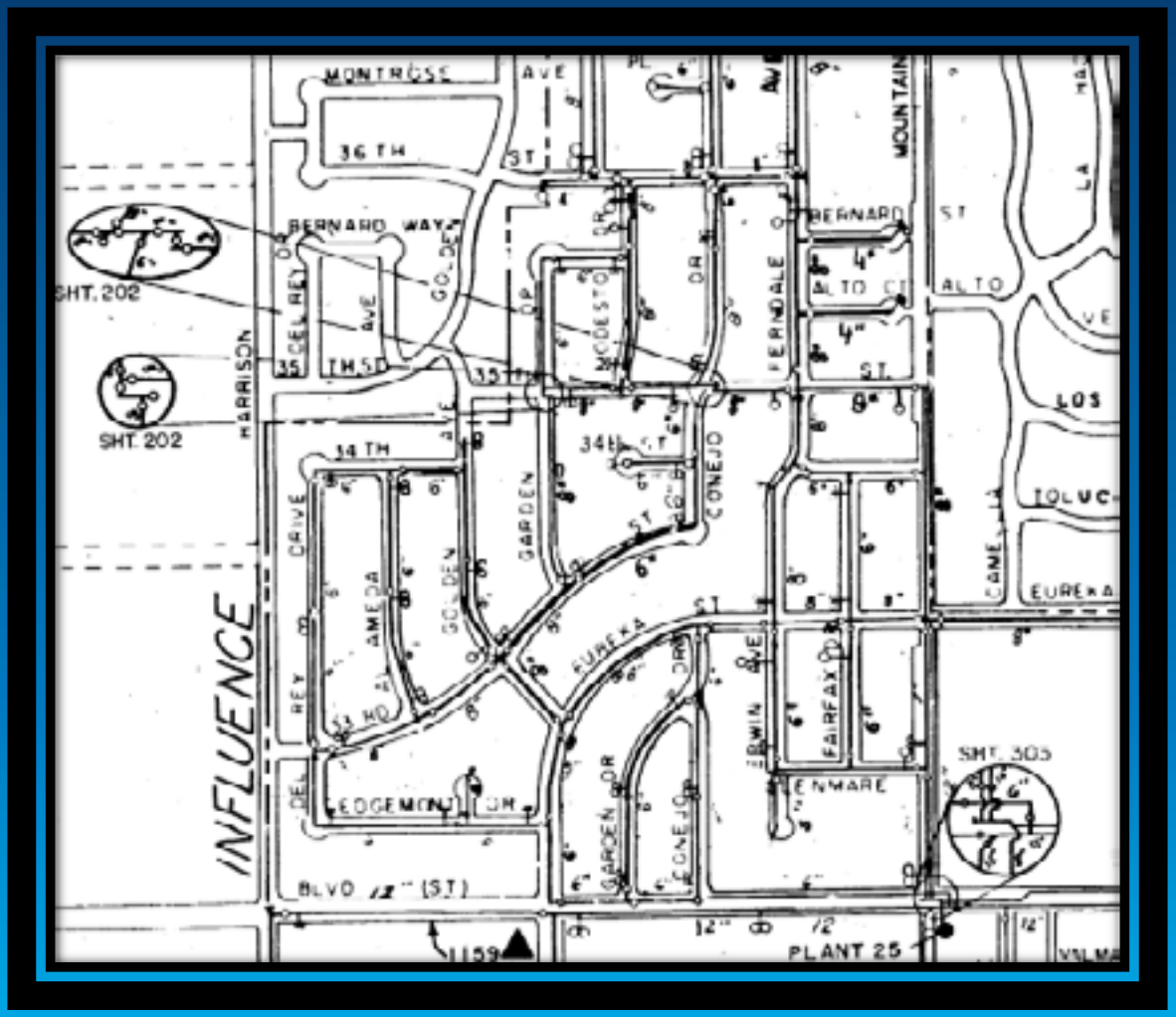


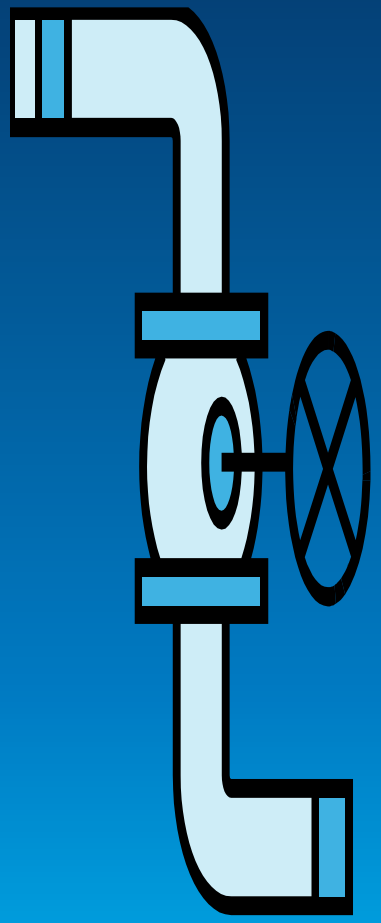

MASTER INDEX MAP
EAST VALLEY WATER DISTRICT


104
105
204
205
304
305
404
405
504
505


610
611
612
710
712
810
811
812
910
911
912
1010
1011
1012

WATER DISTRIBUTION SYSTEM



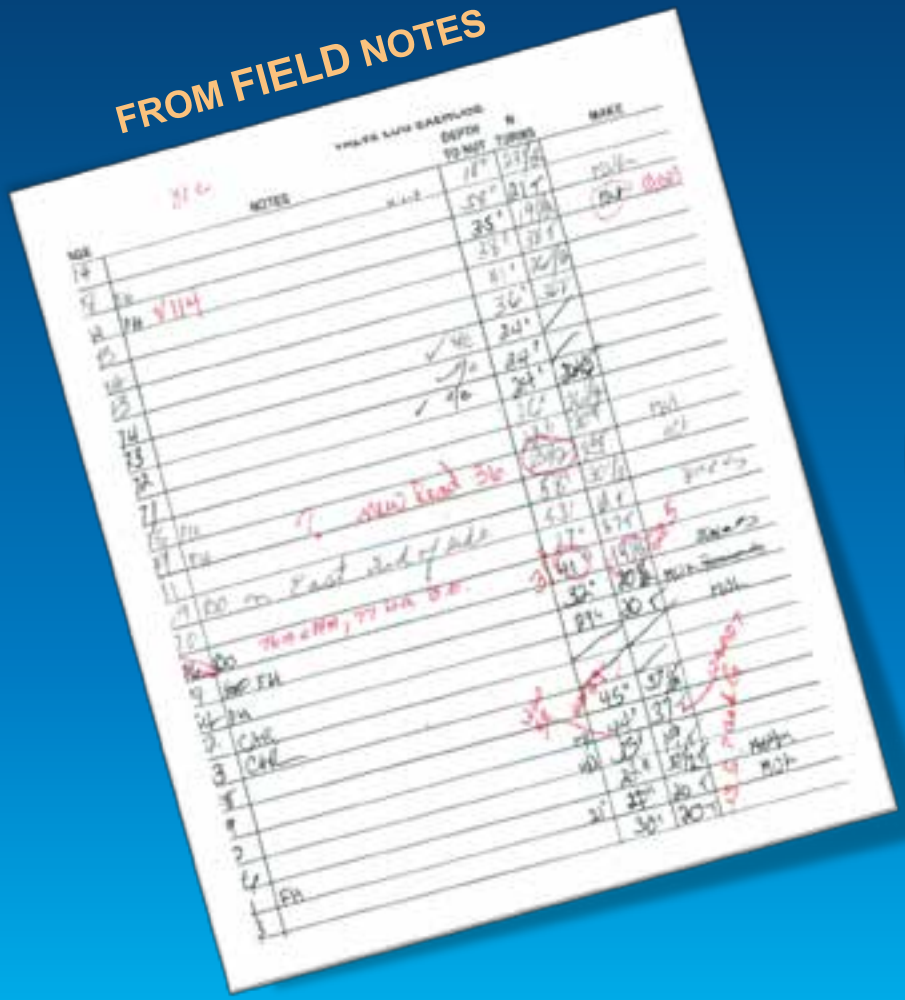


HAND COLORED METER ROUTES

300’ SCALE VALVE MAPS

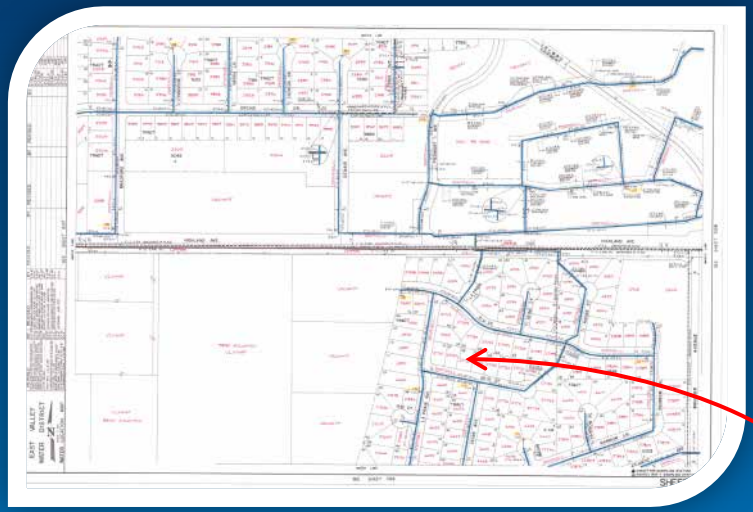
USED FOR FIRE HYDRANT FLUSHING AND VALVE EXERCISING

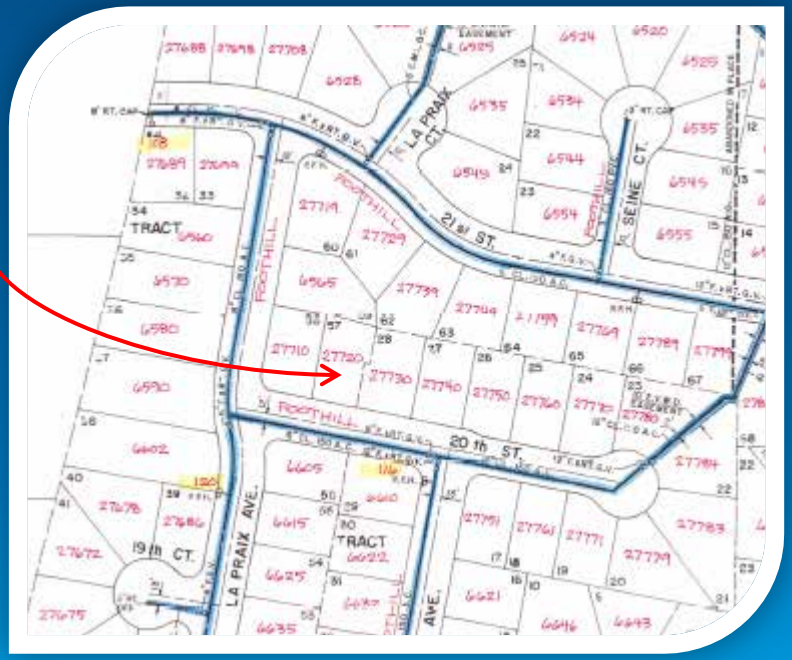
FROM FIELD NOTES



WHERE IN THE DISTRICT ARE WE ?

ATLAS SHEETS





100 WATER SHEETS
100 SEWER SHEETS

HAND COLORED PIPES, ADDRESSED AND PRESSURES

12 DIFFERENT DOCUMENTS TO UP-DATE

CHECK LIST FOR DRAWING UP DATES

JOB # _____

DWG # _____

PROJECT DESCRIPTION _____

	NEED TO DO		DONE NAME	DONE Date
1	WATER ATLAS MAPS 1"=100'	☐		
2	WATER WALL MAPS 1"=600'	☐		
3	HYDRANT FLUSHING MAPS 1"=300'	☐		
4	HYDRANT FLUSHING LIST	☐		
5	WATER ATLAS SHEETS COLORED FOR PRESSURE ZONES, (2 SETS)	☐		
6	PLANT DRAWING	☐		
7	SEWER ATLAS MAPS 1"=100'	☐		
8	SEWER WALL MAPS 1"=600'	☐		
9	STREET INDEX MAP 1"=1000'	☐		
10	LASERFICHE	☐		
11	CAPITOL PIPELINE FACILITIES WORKSHEET	☐		
12	EASEMENTS PLOTTED	☐		
		☐		
		☐		

GERRY DRAWS HIS LAST LINE

GIS OR AUTOCAD ? THAT IS THE QUESTION

- Either way - entire district sewer and water distribution systems created from scratch
- I was the GIS
- Enterprise is the way to go
- Now what?

2009 - The Year We Make Contact

Phase 1 Tasks (Data Conversion)

- Goal: Replace paper atlas sheets
  - Develop Basemap for GIS
  - Convert Drawings to Digital Database
  - Develop Maintenance Plan/QC Workflows
  - Develop GIS Personnel

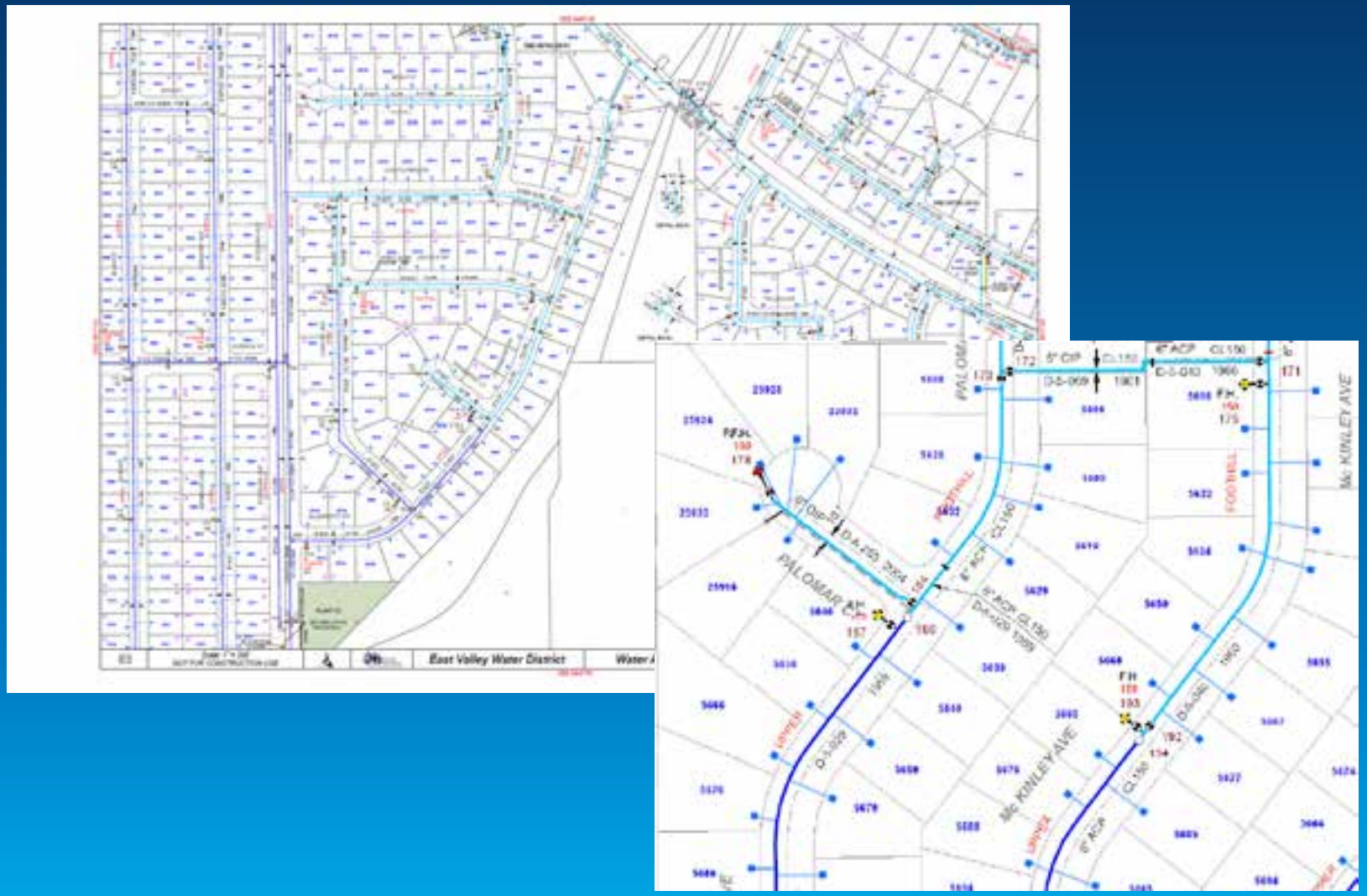
Develop Basemap for GIS

- San Bernardino County Basemap data
  - Addresses, parcels and centerlines
  - Monthly Updates via downloads
- Imagery
  - Regional LIDAR project (3 inch)
  - SBVMWD (larger area)

Convert Drawings to Digital Data

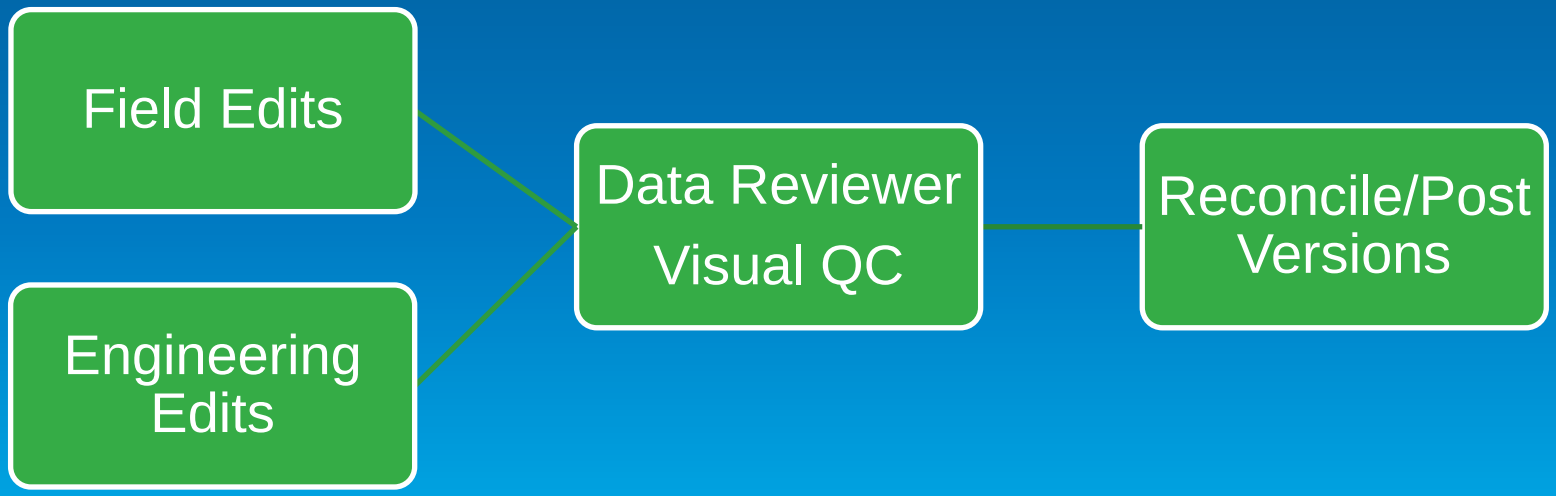
- Pilot (Esri and AIS)
- Data Conversion completed by Nobel Systems
- EVWD Quality Control (Office and Field)
- Completed in 1 year
- Atlas books distributed in hardcopy and PDF

Atlas book in hardcopy and PDF



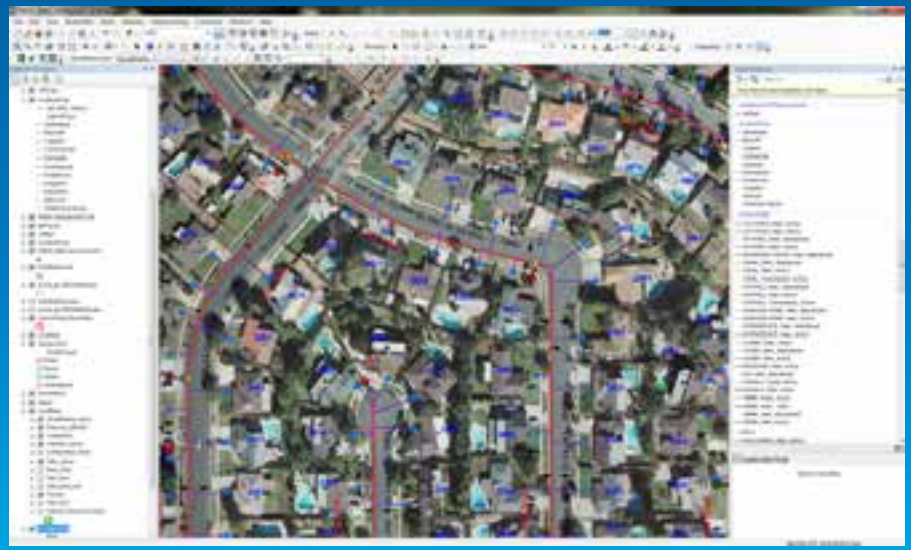
Maintenance Plan

- GIS Maintained by Engineering
- 3 Engineering staff for edits, QC, and map requests (non fulltime GIS)
- Consultant provides other GIS support
  - DBA, Advanced Analysis, scripting, etc



Software

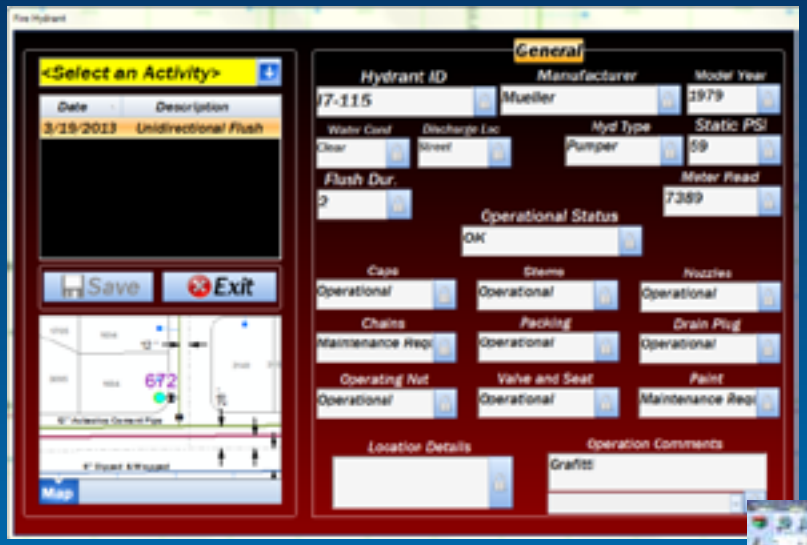
- Esri ELA licensing
- ArcGIS Desktop/Server
- PLTS for Atlas Sheet creation
- Infrastructure tools for data maintenance (free)
- Data Reviewer (QC)

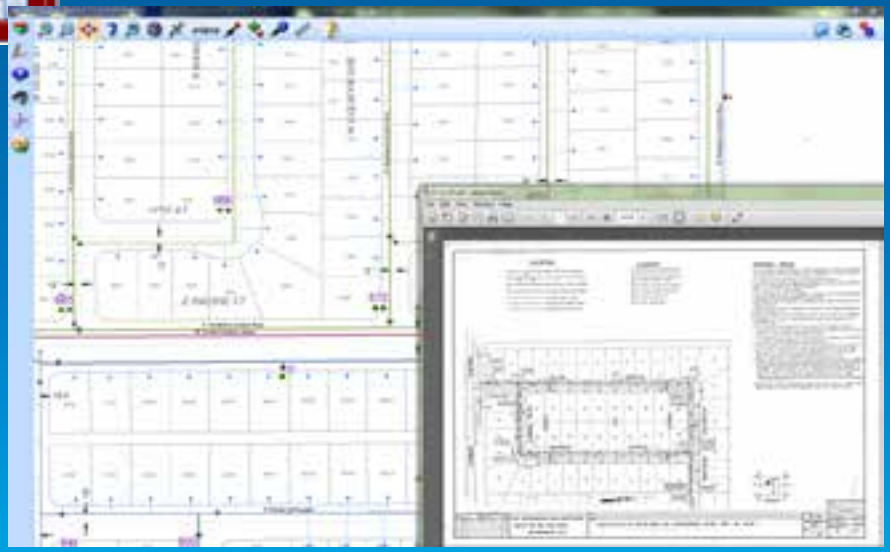


Phase 2 Goals (Field Maintenance)

- Collect GIS Data in the Field
- Share GIS Information Across Organization
- Evaluate Integration Opportunities

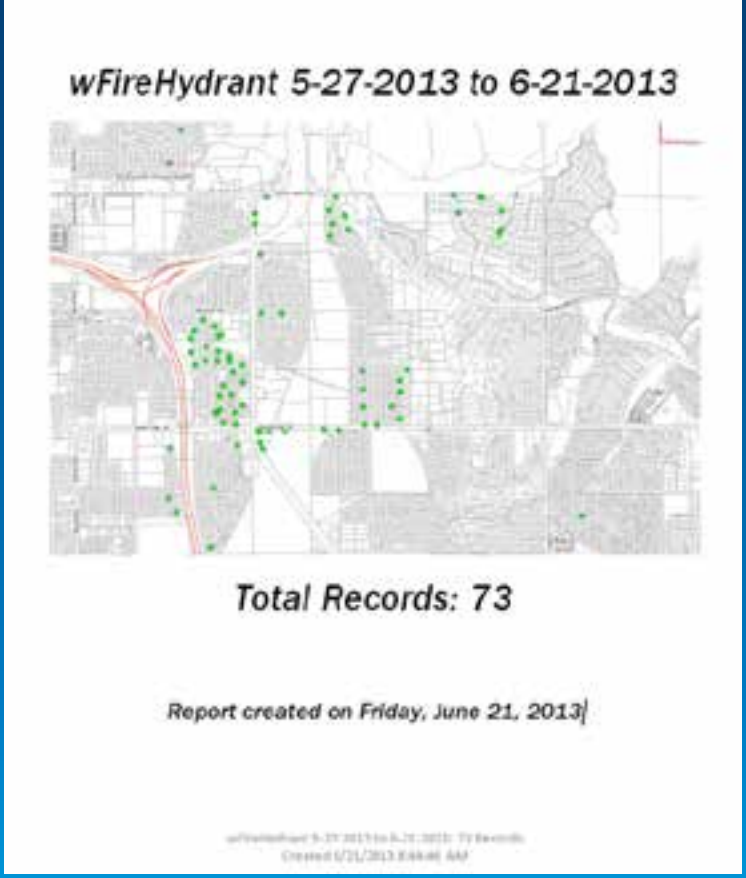
InfraMAP

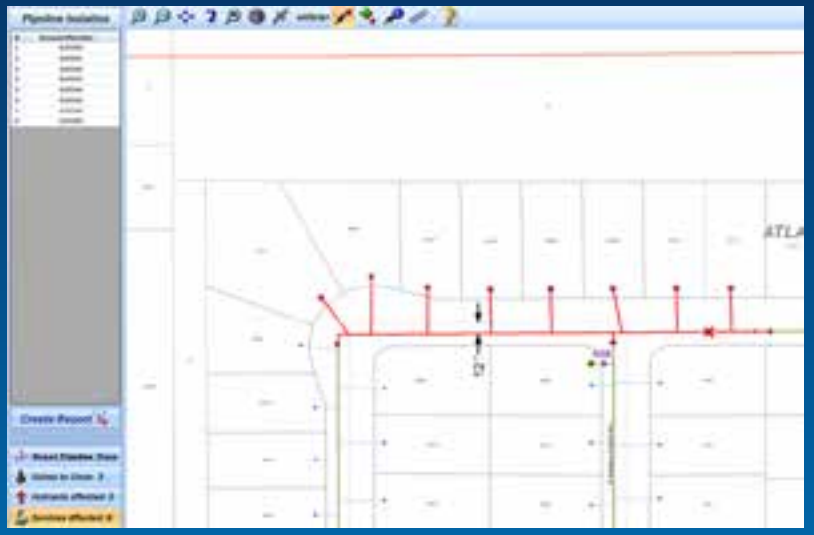




- Easy to use
- Large text
- Fully disconnected
- Access to As-Builts
- Wachs Integration

InfraMAP





- Easy reports
- Valve Isolation
- Requires 2 syncs/day
- Complete Copy of Geodatabase on tablets

Integration Opportunities

Phase 3 Goals (Work Order Implementation)

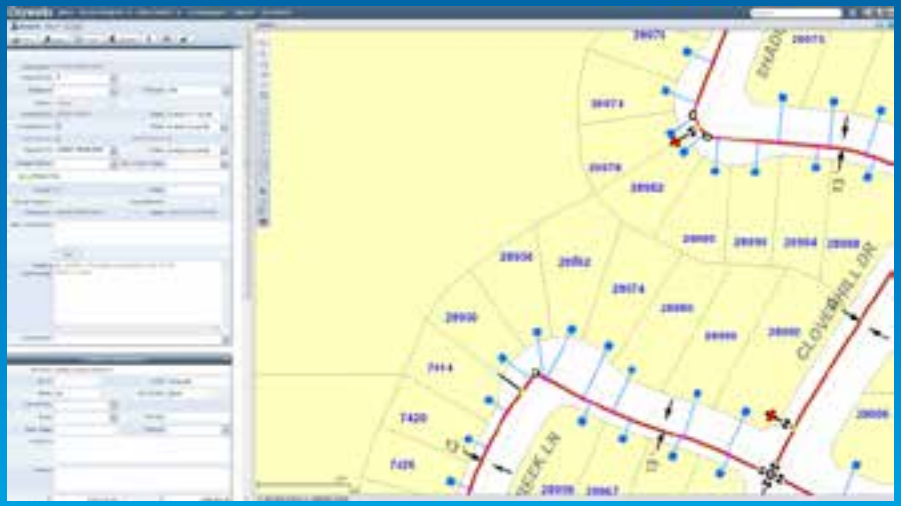
- Integrate GIS into Utility Workflows
- Use GIS to Support Operations
- Integrate Other Business Systems with GIS

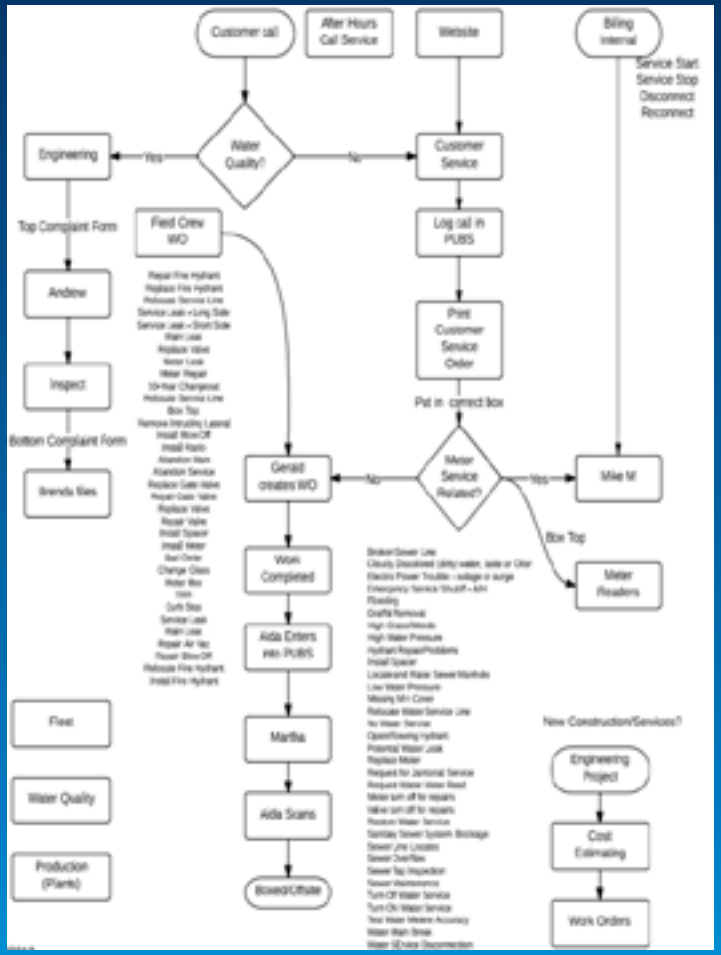
Cityworks

- GIS Centric Solution
- AMS-No syncing (updates in field immediate)
- Service Requests/Work Orders/Inspections
- Scheduled Preventative Maintenance
- Manage more than GIS assets:
  - Buildings
  - Fleet
  - Computers

Cityworks AMS

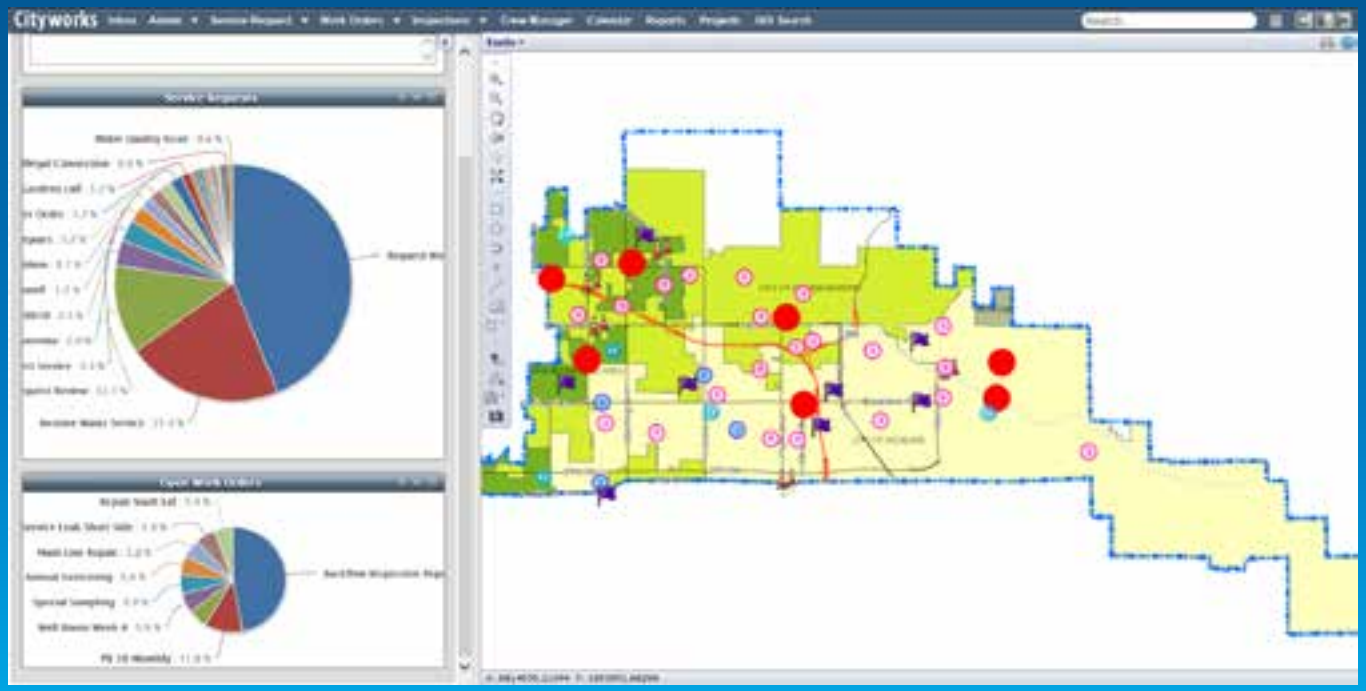
- GeoEngineers selected
- Quickstart Implementation
- LGT templates simplified setup
- Live in less than 2 months



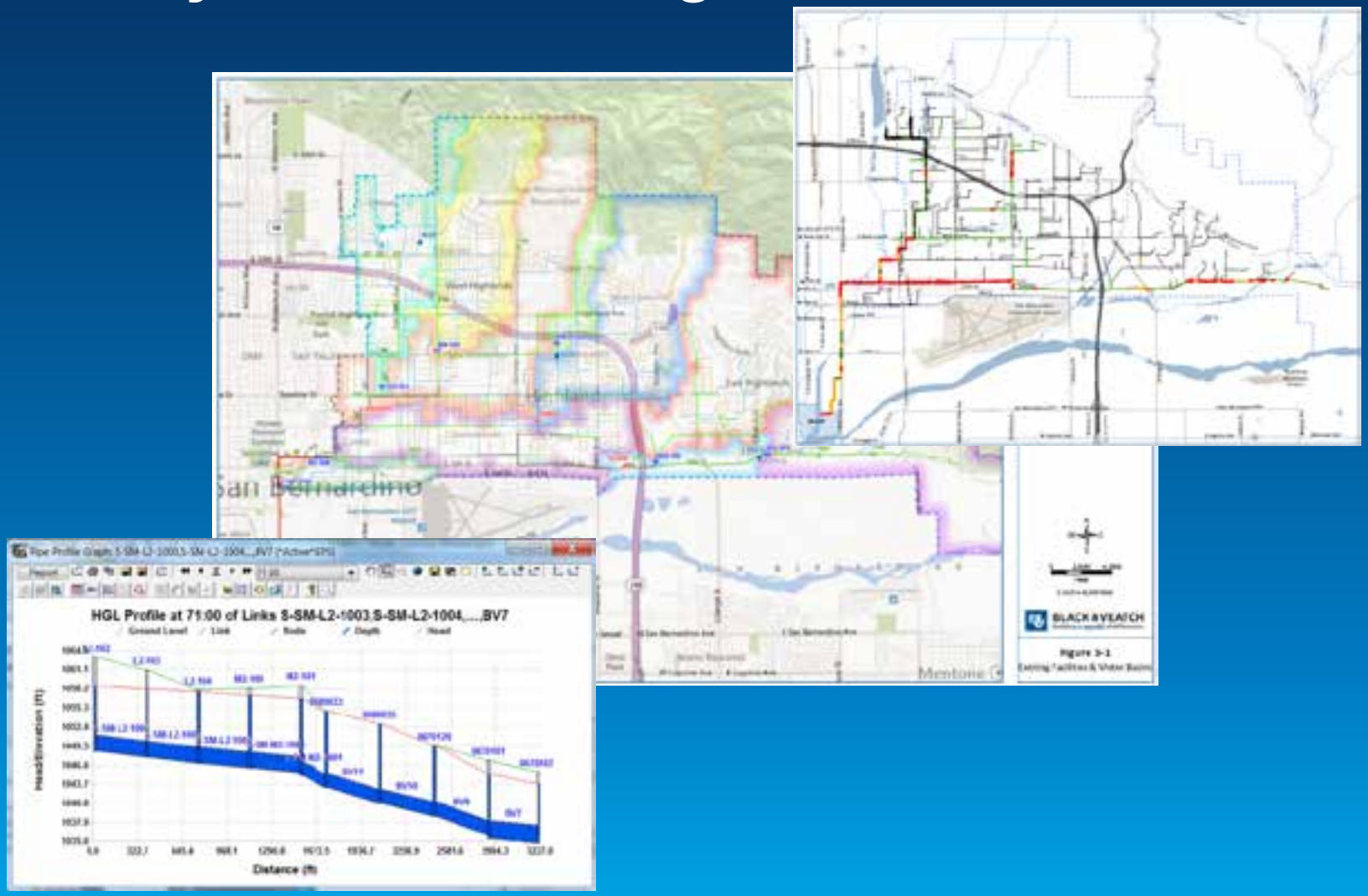


Cityworks

- Field can use best device for job
  - Toughbooks/Motion Tablets
  - Windows Tablets
  - Android/IOS Phones



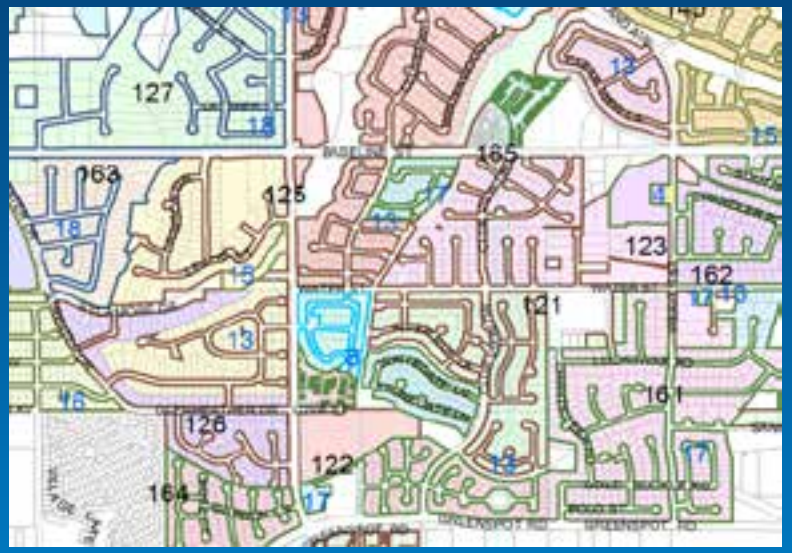
Innovyze for Modeling



Issues Encountered/Lessons Learned

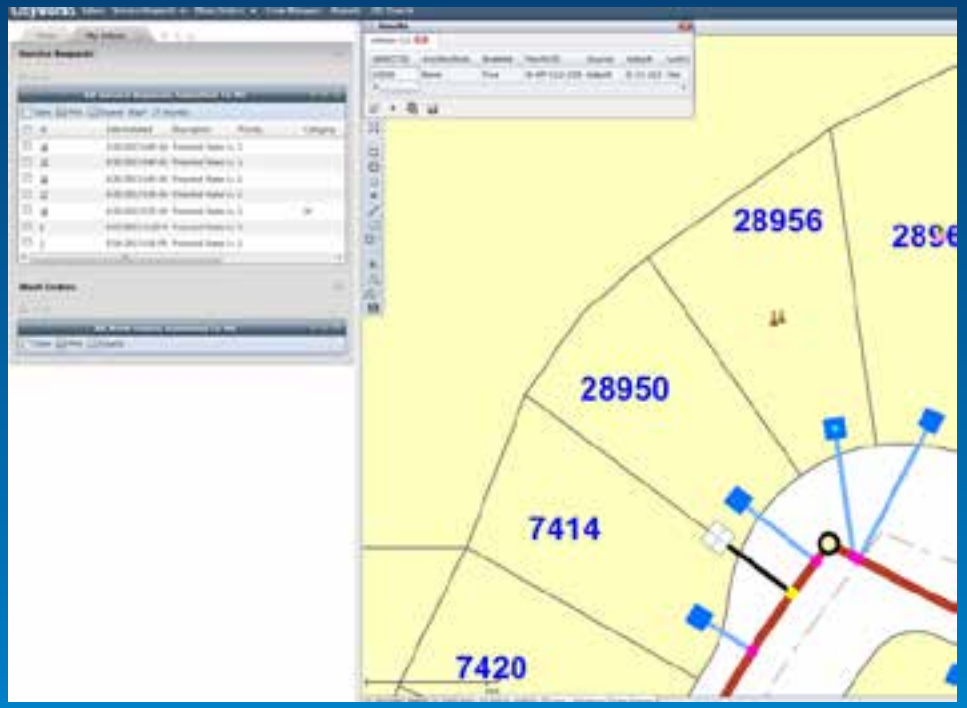
- Start with ArcGIS for Local Government Model
- Continue to review plan or road map
- There will be resistance to change so…
- Find champions in organization
- Need resources dedicated to maintaining GIS
- Management support needed
- Software versioning can be difficult to manage
- Keep it simple

Today…Meter Routes



Today…Hydrant Flushing

Today…Service Requests/Work Orders



The Road Ahead

- Implementation of new finance/billing system (Tyler Incode)
- Internal Cityworks inter-department Committee
- Continue to Develop GIS and Cityworks
  - Fleet Management
  - Building Management
- Regional Coordination
  - Emergency Response (ERNIE)
  - Data sharing
  - ArcGIS.com

Questions?

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- Bruce Miller(brucemiller@MillerSpatialServices.com)

Thank You!!!