



Enterprise Geographic Information System (GIS) Update

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Agenda

1. Overview of EMWD GIS
2. Recent GIS-related Activity
3. EMWD'S GIS Master Planning Effort
4. EMWD's GIS Future

What is a Geographic Information System?

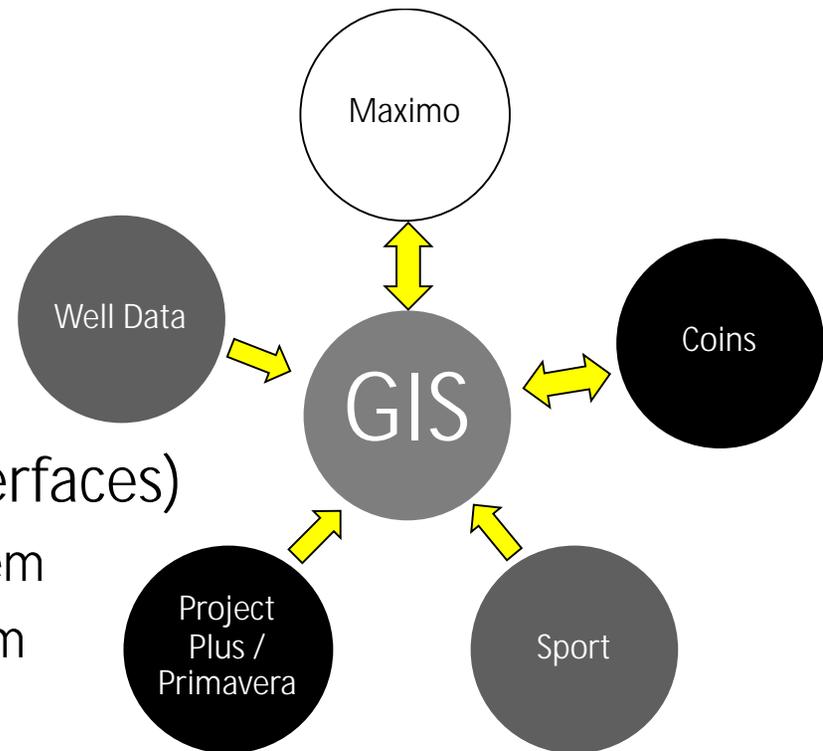
GIS is The Science of Where: Gather, manage, analyze geospatial data

- Build the land base or base map
 - Topographical layer
 - Aerial imagery
- Overlay data from outside sources
 - Parcel maps
 - Roads and highways
- Create and maintain District data
 - Boundaries
 - Assets
 - Representation
 - Location
 - Attributes
 - Links to external sources



How do we use and access GIS?

- Office computers
 - Web maps and viewers
 - GIS editors
 - Reporting and analytics
- Mobile devices
 - Web maps and viewers
 - Field data collection
- Via other business systems (interfaces)
 - COINS customer information system
 - Maximo asset management system
- On the Internet
 - Public map portal
 - Capital improvement project fact sheets



EMWD GIS: Support Staff

- Engineering Services
- Water Resources Planning
- Groundwater Management
- Asset and Facilities Management
- Development Services
- Information Systems
- Consultants
 - ESRI
 - NSGIS
 - Websoft Developers
 - Miller Spatial

EMWD GIS: Recent Projects and Activities

- EMWD GIS Day, 2018
 - Raise awareness
 - Hands-on demonstrations of EMWD's GIS solutions
 - Converse with users to understand how GIS can improve their work
- Web map viewer (HydroMapper), 2018
 - Works from anywhere, available on EMWD-issued devices
- Customer self-service tools, 2017-2018
 - EMWD Map Portal
 - EMWD Capital Improvement Project fact sheets
- Enterprise Asset Management integration, 2019
 - Search assets by customer number, name, cross street, or address
 - Create work orders with a simple map click
 - Identify trends related to physical location (soil corrosivity, etc.)

EMWD GIS: Recent Projects and Activities (continued)

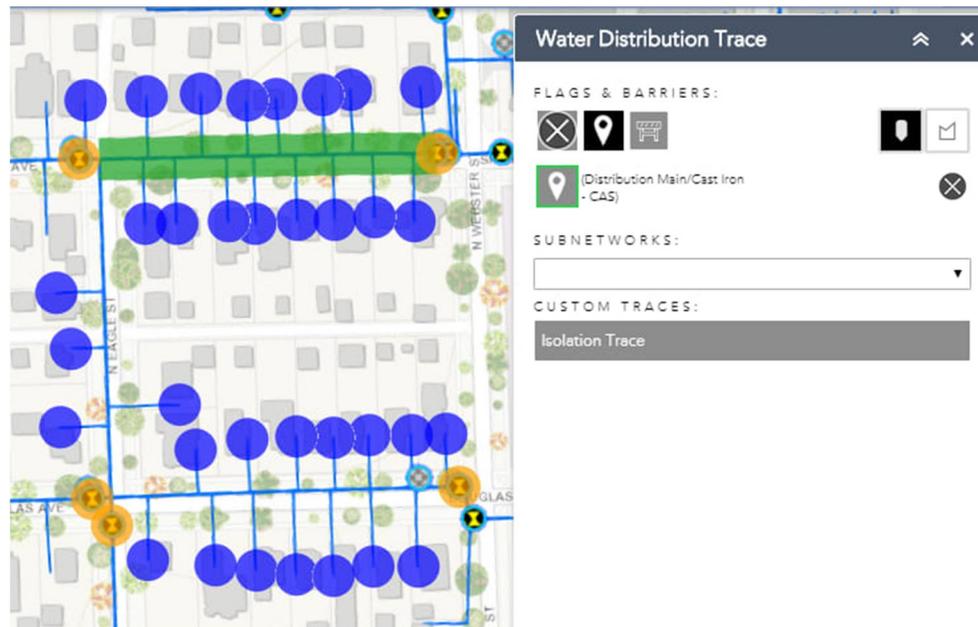
- ESRI ArcGIS platform upgrade, 2018
 - Improves performance and greatly enhances capabilities of EMWD's GIS
- AMI meter retrofit program, 2017-2019
 - GIS data used to generate optimized routes for replacement of over 45,000 meters
- High resolution aerial imagery update, 2018
 - Landscape measurement and verification
 - Spatial water usage and customer analytics
 - Irrigation coverage analysis
- Field work tracking, 2018
 - Digalert/USA underground utility marking
 - Collections cleaning tracking and reporting

EMWD GIS: Recent Projects and Activities (continued)

- Various data quality efforts, ongoing
 - Validate and correct to ensure accurate and complete data
 - Collect high-precision asset locations to improve maps
- CAD-to-GIS map conversion, 2017-2020
 - Create a true geometric network, connecting assets that belong together
 - Greatly simplifies EMWD's hydraulic modeling efforts
 - Goal: Generate new models on-demand
 - More easily assess "what-if" scenarios
 - Enhances data quality
 - Mismatches between various assets, like pipe size/material/flow direction, can be quickly identified and resolved

EMWD GIS: Recent Projects and Activities

- CAD-to-GIS map conversion (continued)
 - Real-time impact assessments
 - “Who is impacted if a line breaks?”
 - “What valves must be closed to isolate a specific area?”
 - “Where is the possible source of an illicit discharge?”



EMWD Master Planning Effort: Key Elements

- Focus
 - Customer-centric
 - Sustainable
 - Secure
 - Business value/alignment
- Recommendations
 - Governance & Support Structure
 - GIS Architecture
 - Data Management
 - Applications Portfolio
- Planning and Execution
 - Project portfolio, based on criticality and business value
 - Recommended timing, resources, staff

EMWD Master Planning Effort: Schedule

	2019						
	FEB	MAR	APR	MAY	JUN	JUL	AUG
Staff Needs Assessment	4/23/19						
Committee Review #1			◆				
Data Assessment	5/9/19						
Technology Assessment	5/20/19						
Organizational Assessment	5/15/19						
Implementation Plan	6/11/19						
Committee Review #2				◆			
Staff & Executive Review							
Deliver Plan to Board						◆	



EMWD's GIS Future

- Implement Master Plan with Board and Executive guidance
- Focus on Governance
 - Implement standards and practices
 - Maintain a training program for GIS editors
 - Implement and integrate quality control practices
- Closely follow ESRI data standards and guidelines
 - Allows EMWD to take advantage of many pre-built tools and apps
 - Improves performance
 - Lowers total cost of ownership
 - Facilitates upgrades
 - Enhances data quality and integrity



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