

Project Goals:

- Backup scans of the original paper drawings in case of fire or flood.
- An accurate, yet simple system that could be used anywhere there's an Internet connection.
- A system that could be expanded or updated as future needs arose.
- A secure system protected from unauthorized access.

Services Provided

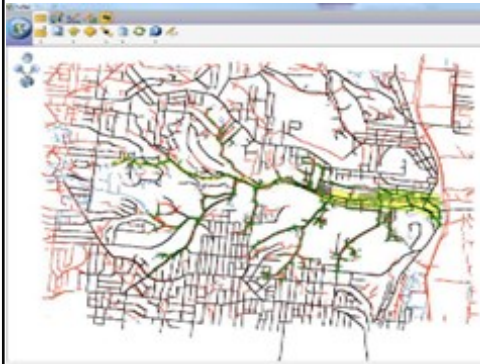
- Base mapping & GIS
- GIS Database Design & Management
- Data analysis
- Web Development

Scan to go to our website



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RA began a review of the existing paper data in May, with scanning of all drawings completed by July. What was initially thought to be around 600 paper scanned sheets ended up being 1075 scans contained in 46 folders. To be accessible from any location that has an Internet connection, the scanned images were uploaded to a secure, password-protected website.

The initial phase of mapping the system was accomplished by entering water assets into a geodatabase via heads-up digitizing using record drawings as the source. While this was an important initial step, it was soon realized that the true physical location of critical assets, such as valves and access manholes, was not represented accurately in the record drawings. Knowing the exact location of aboveground water assets is extremely important. While some of the scans were geo-referenced and used to trace the water lines, the majority of the images were too outdated to be of any accurate use.

With the client's approval, RA Consultants survey crews employed Trimble VRS technology to locate and field survey the locations of valves, manholes, and other structures as a reference for the true location of the current supply and distribution lines. Once the survey was completed, the GPS data was imported into ESRI ArcGIS and transformed in a Microsoft SQL database. Attribute information was obtained from multiple resources:

- Existing scanned drawings,
- CAD files (when available), or
- The knowledge of client staff.

With accurate data now available, a second website was created for the client – this one employing ESRI's ArcGIS Online technology. The client's ArcGIS Online account can be accessed from any smartphone, tablet or desktop computer, giving end users the ability to not only view the existing supply and distribution lines, but to also see attribute information, edit that information and/or add in new data as needed.

Field crews are able to access their GIS data wherever they have internet access. Previously, crews would drive to a site, search through numerous rolls of record drawings, and try to find room to lay out the appropriate map to diagnose an issue or make a repair. Now, everything is accessed from the Web, even the record drawings have been scanned and hyperlinked to the GIS features in case staff need more detail.