

### Global Positioning System (GPS):

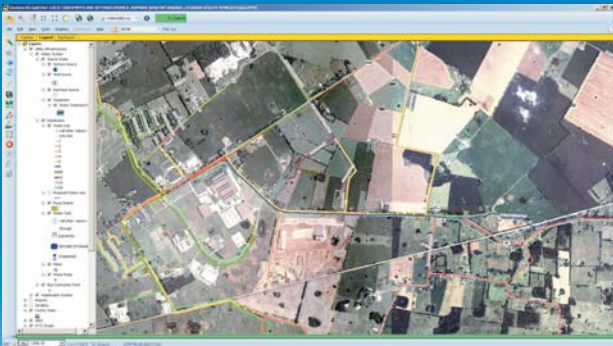
GPS is a navigation system made up of a network of 24 satellites, placed into orbit by the U.S. Department of Defense. These satellites circle the globe twice a day in a very precise orbit, and transmit signal information back to earth. GPS receivers take this information and use triangulation to calculate the user's exact location.

### Geographic Information Systems (GIS):

GIS combines mapping software with database management tools to collect, organize, and share many different types of information. GIS can store, display, and help your utility interpret virtually all the important attributes of your system.

### Mapping Services through IRWA:

Through the implementation of GPS & GIS technology, IRWA can effectively produce hard copy and digital maps, to be utilized by system personnel for water and/or wastewater facilities in the state. With this new service available from IRWA, utilities can attain new and accurate maps to better manage their infrastructure assets.



# ASSET MAPPING SERVICES





### Accurate and up to date system maps:

Our mapping technician will work with your system personnel to develop precise maps of your infrastructure. The data collected in the field will show the placement (to within one foot in most cases) of water features such as master meters, main valves, hydrants, tanks, wells, as well as others. This is also true for wastewater systems in locating manholes, lift stations, treatment plants, etc. Additional details on these features can be added when gathering the data, such as line size, date of installation, or manufacturer. Incorporating this kind of data allows you to monitor and evaluate your system at a whole new level.

IRWA will input the data from the field along with background layers such as aerial photography and create high quality, detailed maps of your system. At the end of the project, all data and the maps will be owned by you for use in the future.

### How does the program work?

Just contact IRWA and express your interest in a mapping project. We will then do a short presentation for your governing body and a pre-assessment survey to determine project needs.

IRWA will provide a scope of work, a cost estimate for the data collection and map production, and a service contract. The estimated cost is based on the number of data features to be collected and time to produce the maps.

After the contract is signed, the next step is to collect data in the field using a Trimble GPS receiver, which is one of the industry's best. The accuracy of this equipment is less than one foot of the actual location of the feature.

System personnel **must** accompany our mapping staff in the field to ensure we collect all the features you want. And all points needing location, **must** be accessible to our field technician.

Next, we post-process and digitally correct all data collected to ensure accuracy. These data points are input into a GIS program to create a variety of map products. IRWA will utilize top GIS software to create hardcopy and digital maps to the utility's specifications.



### What does the system receive?

IRWA will generate printed maps and a digital map file for your system. The printed maps can be large-scale wall maps, showing major features with the desired layers (aerial photos, streets, topography, etc.). The printed maps can also be generated into a map book format. The map book is a bound 18" by 24" book of high-detail maps printed at the best available scale.

The digital map file on a CD, can be viewed and printed with free software that IRWA will provide. The software allows you to click on a waterline with a leak and highlight which valves need to be closed to isolate the line. There are also tracing features to show the direction of water flow, and other useful features.



### Cost

Payment for services is determined by a charge per each system feature located and mapped, based on the type. These amounts will be discussed with system personnel, and documented before the start of the project.

The digital map on a CD is included in the set feature location cost. The amount charged for a Map Book will be \$50 plus \$5 per page; and a wall map is a flat \$100 fee each. (Note: Hardcopy maps are optional.)