



Introducing the patented *Wireless GPS Mapping Stick!*

The patented* Wireless GPS Mapping Stick works with the Granite XP Asset Inspection & Decision Support Software, in conjunction with the ESRI Module, to provide valuable locating and positioning solutions. The Wireless GPS Mapping Stick provides the ability to display and record Sewer (Manhole & Lateral Assets), Storm, Fiber, and Gas Pipeline coordinates from a GPS receiver and transfer this information seamlessly to Granite XP to map the location of these assets. The kit includes a Trimble ProXT receiver for a complete turnkey solution.

Wireless GPS Mapping Stick Benefits & Features:

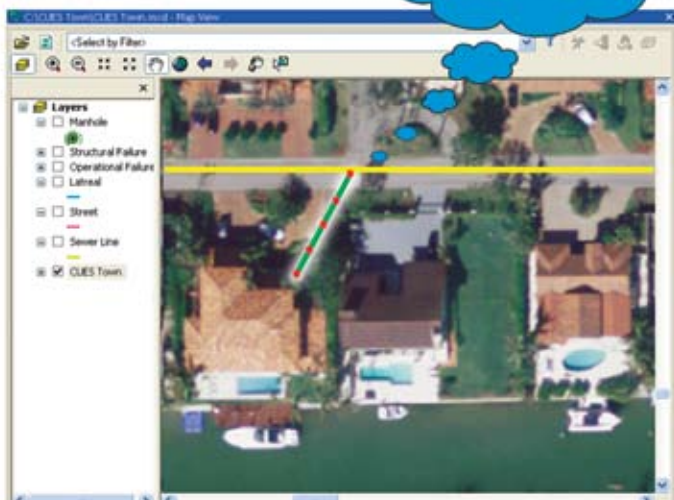
With the Granite XP Wireless GPS Mapping Stick, you can:

- Freely capture GPS coordinates from a distance ranging from 500 ft to 1500 ft
- Display and obtain the GPS coordinate(s) for the following assets:
 - the single coordinate of the Sewer (lateral clean-out, lateral at the main, etc.), Storm, Gas, and Fiber Nodes
 - GPS coordinates of the Main or Lateral Assets (coordinates will be captured based on the precision of the GPS receiver (e.g. WAAS, SBAS, etc.)
 - the single coordinate of a specific observation
- Estimate a coordinate for an intermediate location based on the known coordinates of the nodes, footage, and lengths
- Connect to the GPS receiver device, extract the current coordinates from the device output, and share the information with other data acquisition system components
- In Granite XP, view the current state and coordinate that's transmitted by the GPS receiver in real time to the software.
- The Wireless GPS Mapping Stick supports the NMEA-0183 compatible GPS receivers working through the COM (RS-232) hardware interface.
- Gather GPS coordinates and estimate depth using optional built-in sonde within the camera to plot "No Dig" line traces



*U.S. Patent No. 7,889,124

WIRELESS GPS RECEIVER PROVIDES A REAL TIME TRACE OF THE LATERAL



This product includes the Trimble ProXT Receiver!



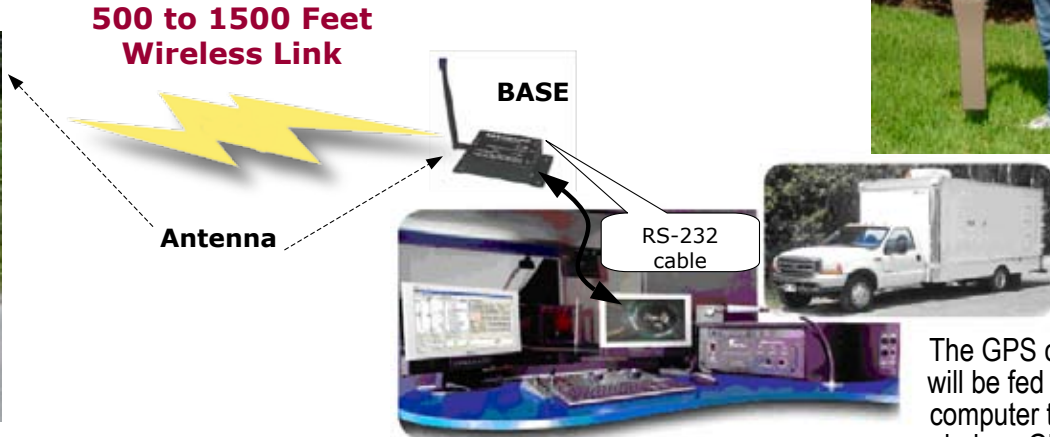
Used in conjunction with the ESRI Module, the Wireless GPS Mapping Stick facilitates the capture and identification of the GPS coordinates, thereby developing and updating your GIS layers!

Includes patented* technology and the ability to map laterals to avoid crossbores!

Capturing GPS Coordinates in Granite XP:

Wireless GPS Receiver (GPS data will be fed into the RF Modem and then the data will be transmitted to the other end of the wireless link)

Depth of the sewer system will be determined by using sonde device.



The GPS coordinates will be fed to the truck computer through the wireless GPS receiver

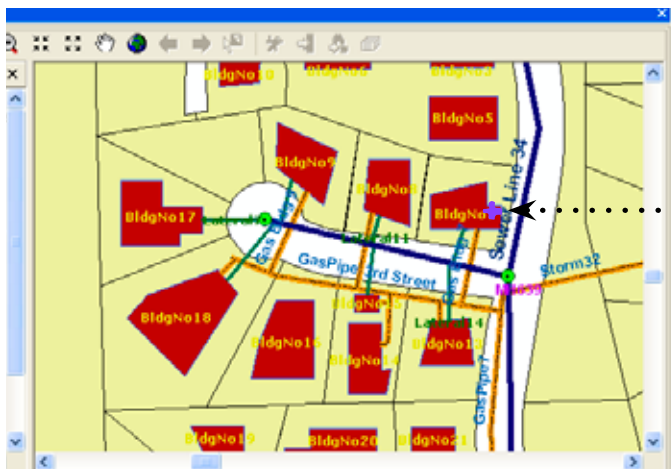
FIGURE: Capturing GPS Coordinates through a Wireless GPS Receiver

The Wireless GPS Mapping Stick provides the ability to obtain the current coordinates of the Sewer, Storm, Fiber, and Gas Pipeline segments, including Nodes, Main and Lateral Assets, in the following ways:

- GPS receiver that's directly connected with the PC
- a. capture GPS coordinates by using a GPS receiver that's connected directly to the computer via a cable
- b. capture GPS coordinates through a wireless GPS receiver from a 500 ft to 1500 ft range (shown in the diagram above)
- Enter the end points to obtain estimated coordinates
- Enter GPS coordinates manually

The GPS Data is Collected, Saved, and Presented in the ArcGIS Map:

To manage the inspection process more effectively, Granite XP can be used as an auditing tool to display and map various pipeline layers with the GPS coordinates. In the screen below, the GIS map depicts a blinking light to display the approximate location of the GPS receiver to the crew. This ensures safety for the operators in the field as well as any homes/facilities that may be too close to a possible hazard.



The + symbol represents the "cookie-crumbs" real-time GPS coordinates that are being collected in the field.

Field technicians can validate real-time GPS with actual footage counting that's provided by the camera robot to identify buried asset locations.