



Infiltration and Inflow Control Program

GIS Assistance Program

Advisory Technical Panel
September 17, 2015



Topics

- The District is working on a GIS Assistance Program that will be available to any satellite entity within the District
- Benefits of using GIS to Map a Sewer System
 - Satisfy the Short Term Requirements and LTOMP of the IICP
 - Up-to-date infrastructure information
- Capturing Data in GIS
 - Infrastructure location and elevation, Inspection & Maintenance Reports, etc.
- GPS Hardware and Software
 - Accuracy of GPS units. User friendly software that is expandable (future use)
- Data Collection and Hosting Options
- Satellite Entity GPS/GIS Experience
- Satellite Entity Interest



Potential GIS Assistance Program

- The District is working on a Potential GIS Assistance Program
- Possible District funding for GPS units and GIS software for satellite entities to map their sewer system in GIS
- Satellite Entity to collect and process captured data
 - Staff to be Trained and Dispatched
 - QA/QC for accurate data
- The District will require a copy of the data collected by the satellite entity
- Although GIS mapping is not a requirement of the IICP, GIS mapping will be beneficial to satellite entities



GIS Benefits

- Accurate and current sewer map with efficient updates
- Completing the Short Term Requirements
 - Condition assessment: sewer inspections/testing, and illegal connections
 - Rehabilitation: Identification and correction of high priority deficiencies
- Implementation of the LTOMP
 - Record all inspection, maintenance, rehabilitation and replacement work
- Interactive map with selectable features
- Sewer Modelling
- Digital Media



Capturing Data in GIS

- Mainline sewers, force mains, manholes and cleanouts
- Lift stations, siphons, diversion structures and overflows/bypasses
- Building lateral connection location
- Building footprint
- Service area boundaries, roads, water bodies
- Rain gauge and flow meters
- Connections to District facilities
- All relevant elevations, diameters, lengths, materials, and other attributes



GPS Hardware and GIS Software

- Horizontal Accuracy of GPS units
 - Low Cost: 36 in.
 - Medium Cost: 12 in.
 - High Cost: 1 in.
- Vertical is less accurate by a factor of 2 – 2.5.
- User friendly software that is expandable (future use)
- Digital media can be linked to GIS software
- Ongoing reports for continuously captured points (maintenance reports)



Data Collection and Hosting Options

- Data Collection by Satellite Entity Staff
 - Investment in staff and training on GPS/GIS
 - Staff to QA/QC data
- Data Hosting Options
 - District: Named User Access
 - Satellite Entity: Stored locally and shared with the District
 - Third Party Hosting (hardware manufacturer or other) and shared with the District



Satellite Entity GPS/GIS Experience

- Staff
 - Training for GPS units and GIS software
 - How Many Administrators/Users
- GPS Units
 - How Many Units
 - Ease of Capturing/Uploading Data
- GIS Software
 - ArcGIS, 3rd Party, others
 - Software subscription fees for data processing/hosting
- Timeline of Project
- Overall Cost or Costs of Contracting Data Collection



Satellite Entity Interest

- Program Interest
- Program Concerns
 - Hardware and accuracy
 - Software and data hosting
 - Dedicated staff and training
 - Other concerns



Thank you for your time and participation