



# Digital Data Submission (CAD) Standards

Fulton County  
Department of Public Works



# Agenda

- ▶ Introduction
- ▶ Reason for Change
- ▶ About the Standard
- ▶ Refining the Standard
- ▶ Electronic As-Built Files
- ▶ Discussion
- ▶ Beta Test Sign-Up

# Department of Public Works Mission Statement



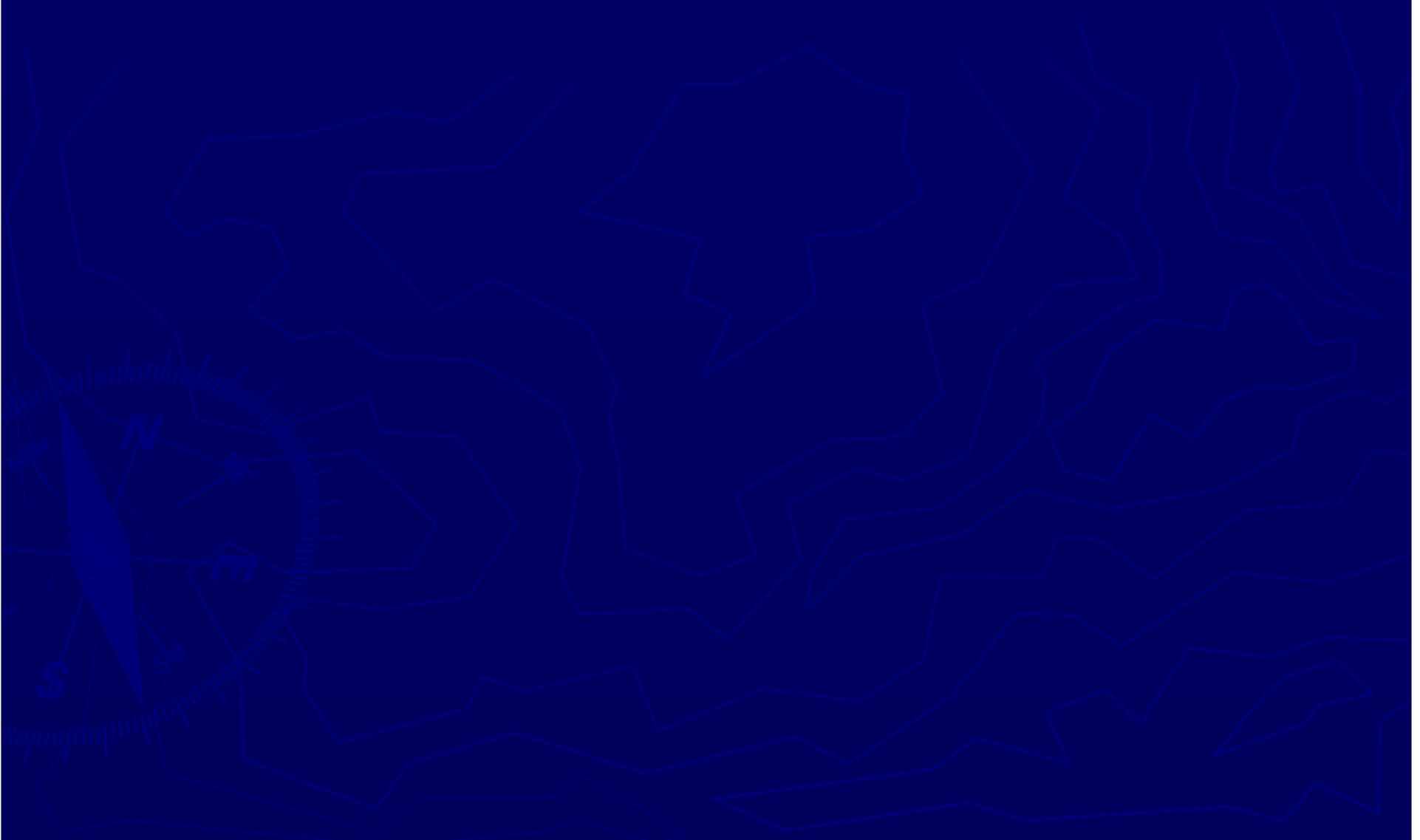
**The Fulton County Department of Public Works (DPW)** is responsible for developing and maintaining the highest quality infrastructure needed for preserving the environment . . . DPW is charged with the responsibility of the systematic planning, construction, maintenance and operation of the Transportation, Water and Wastewater infrastructure within our respective service areas in Fulton County. DPW seeks to protect the health, safety and welfare of Fulton County's Citizens through a sound management approach of the county's infrastructure, by providing high quality and cost efficient services, and by complying with federal, state, and county regulatory requirements.

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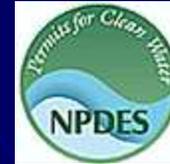
# Why are we doing this?

## Three Primary Drivers:

- ▶ **Regulatory**
- ▶ **Operational**
- ▶ **Efficiency**

# Regulatory

- ▶ NPDES Permitting
- ▶ GASB 34
- ▶ MNGWPD
- ▶ EPD Audit Checklist
- ▶ CMOM
- ▶ *More.....*



# Regulatory

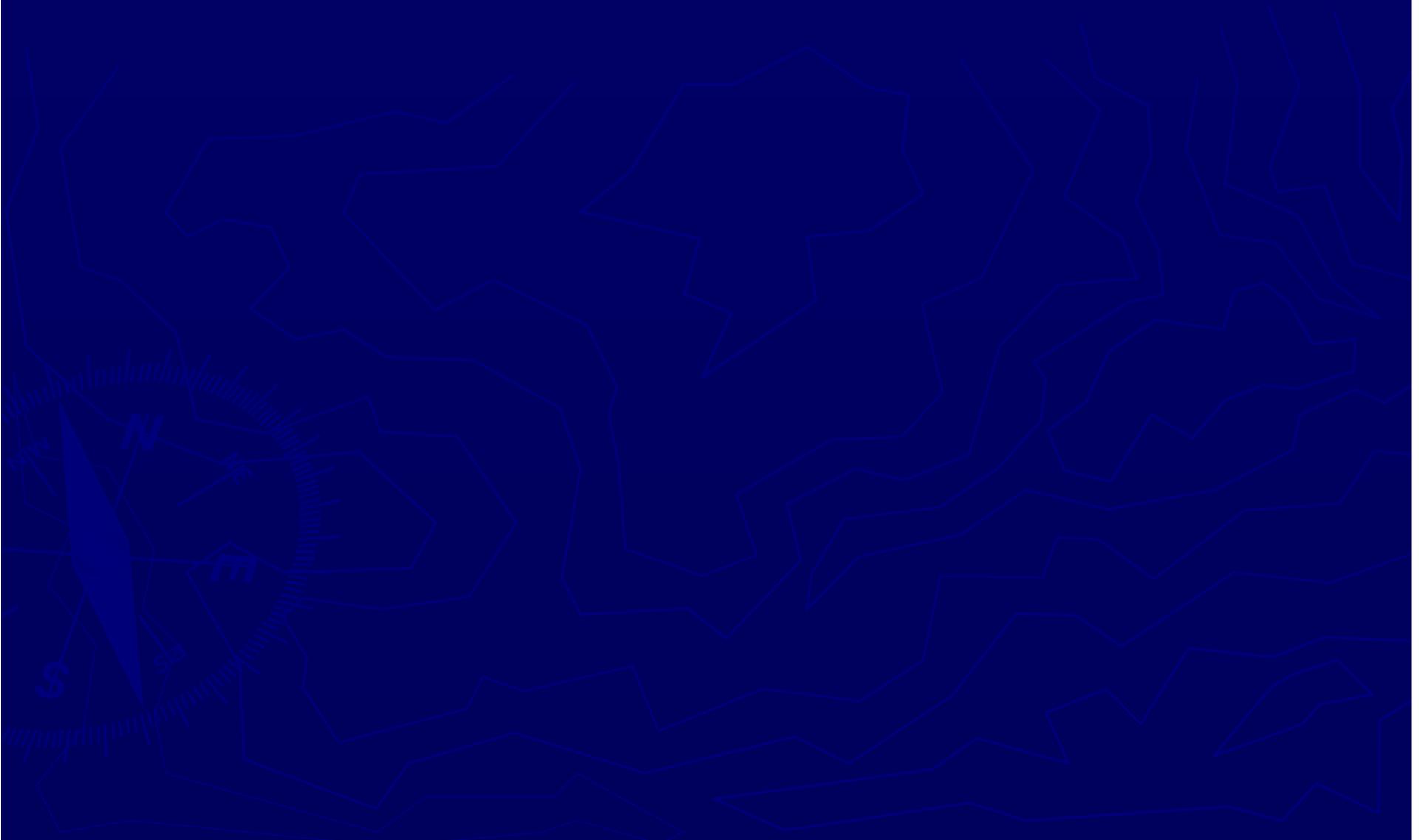


## Additionally, our Authority?

- Section 4.2.3, ~ C-4 of FC Subdivision Regulations **Final Plat**

4. an electronic format acceptable to the Public Works Department containing data about the sanitary sewer and water systems where available;

# Operational



# Operational

How are we planning to do this?



# *Electronic As-Builts*

## ▶ Standards

- Tied to GPS Monument Network
- Spatially Referenced
- Topology, Layer Names, Contents
- Templates created to make easier to implement

## ▶ Import

- One Step Hands Free (FME)
- Convert CAD to GDB keeping scale intact

## ▶ Review

- Easy to Flag Errors
- Review Database
- Automatic Follow-up Letter

## ▶ Support

- Training!
- Information On Web Site

# Modeled on CCWA Standard



- ▶ Already is proven and accepted
- ▶ Builds standardization in the Metro Area for development community to follow
- ▶ Other communities are also looking at this model such as Gwinnett and Henry County



**CLAYTON COUNTY WATER AUTHORITY**  
**STORMWATER MANAGEMENT PLAN SUBMITTAL PROCEDURES**  
Effective January 1, 2007



# Work with Development Community

- ▶ Key members of the Development Community to participate in Pilot Run of standards to provide input
- ▶ Hold educational workshops to ease transition to new standard
- ▶ Make standards available online
- ▶ Have easy to use templates available
- ▶ *CDs available TODAY*

# County Support for Process

- ▶ Hold training workshops for Submitters and County staff
- ▶ Have automated review system to reduce review errors and misunderstanding
- ▶ Have an appeal process if submission fails

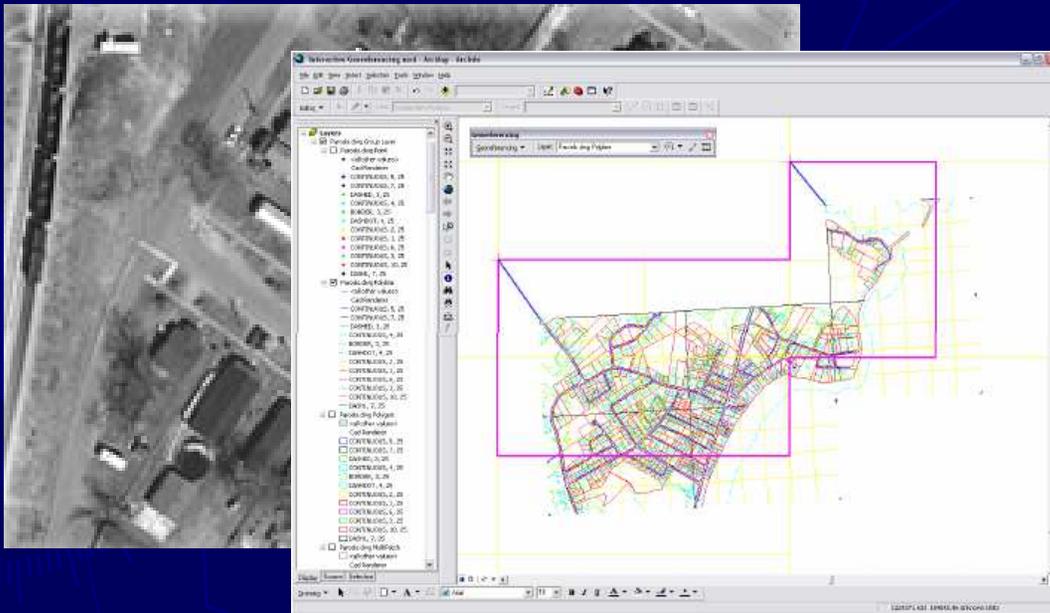
# Incentives for Compliance?

- ▶ Free training on new FULCO standard
- ▶ Sharing of GIS data (aerials, contours, etc.)
- ▶ Increase approval turn-around time



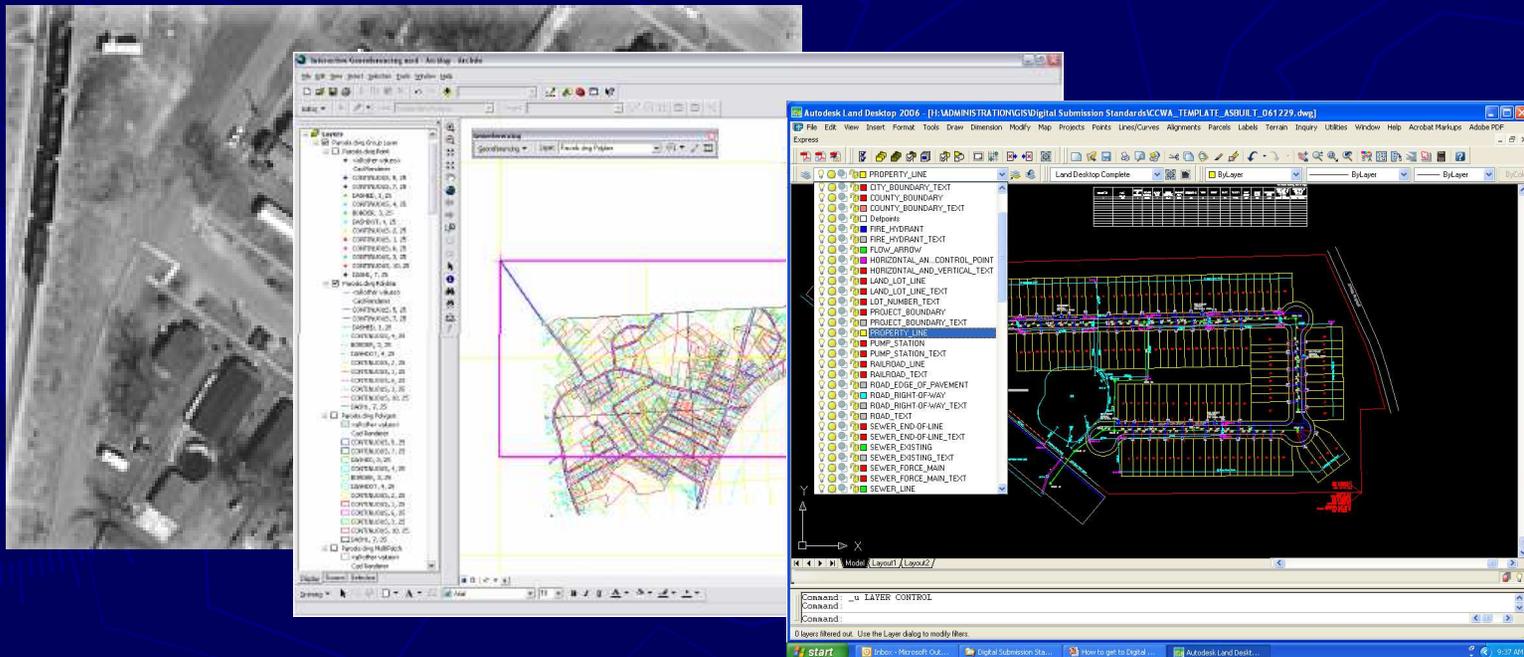
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## ANOTHER OPTION FOR WATER/SEWER

- ▶ Annual Contract for Survey & Inventory
  - Deliver GIS Data
  - Include CCTV Data
- ▶ Increase Impact Fee or Inspection Fee
  - Per Point Cost (Water, Wastewater)
  - Linear Foot Cost (CCTV Inspection)
  - QA/QC Cost
- ▶ Option to do themselves
- ▶ How do we quantify cost savings?

# OVERVIEW OF PROCESS

## ▶ Advantages

- Eliminate Unnecessary Steps
- Automate
- Use of SOP

## ▶ Data Structures

- Only What is Needed
- Consistency

## ▶ Platforms (Standardization)

## ▶ Receive Report with Errors

# About the templates

- ▶ Start with what data you need in the GIS  
DEFINING STANDARD LAYER NAMES

## WW\_Manhole

- Manhole\_ID
- RIM\_Height
- Material
- Drop\_MH

## WW\_Pipe

- Pipe\_ID
- Ups\_MH\_ID
- Dws\_MH\_ID
- Drop\_Inv
- Ups\_Inv
- Dws\_Inv
- Size
- Material

### 3) Drawing

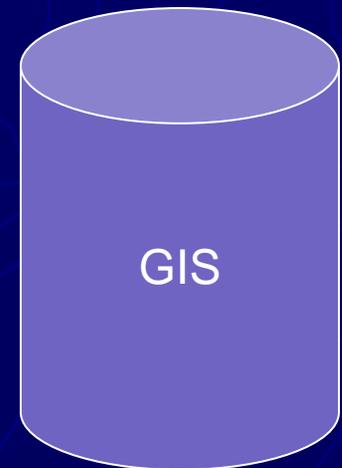
- a) All layers must conform to the proper geometry type (insert/block, line, polygon, text) as indicated in Table 1.

Table 1: Layer Names and Geometry Types

| Layer Name                            | Type   | Layer Contents  | Surveyed |
|---------------------------------------|--------|---|----------|
| ADDRESS_TEXT                          | Text   | Street postal address number  | No       |
| APARTMENT                             | Poly   | Apartment Building Footprints   | Yes      |
| APARTMENT_TEXT                        | Text   | Apartment building numbers, etc. associated with the APARTMENT layer  |          |
| BLOCK_LETTER_TEXT                     | Text   | Indicates the block letter of a subdivision   | No       |
| CITY_BOUNDARY                         | Line   | City boundary line  | No       |
| CITY_BOUNDARY_TEXT                    | Text   | City names associated with the CITY_BOUNDARY layer  | No       |
| COUNTY_BOUNDARY                       | Line   | County boundary lines   | No       |
| COUNTY_BOUNDARY_TEXT                  | Text   | County Names associated with the COUNTY_BOUNDARY layer  | No       |
| FIRE_HYDRANT                          | Insert | Fire Hydrants   | Yes      |
| FIRE_HYDRANT_TEXT                     | Text   | Text Associated with FIRE_HYDRANT layer   | No       |
| FLOW_ARROW                            | Insert | Sewer line flow arrows  | No       |
| HORIZONTAL_AND_VERTICAL_CONTROL_POINT | Point  | Survey control points (rebar or monuments) with x,y,z coordinates   | Yes      |
| HORIZONTAL_AND_VERTICAL_TEXT          | Text   | Text associated with HORIZONTAL_AND_VERTICAL_CONTROL_POINT (coordinate values, monument number, survey method etc.) | No       |
| LAND_LOT_LINE                         | Line   | Land lot lines.   | No       |

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Printed: 3/7/07

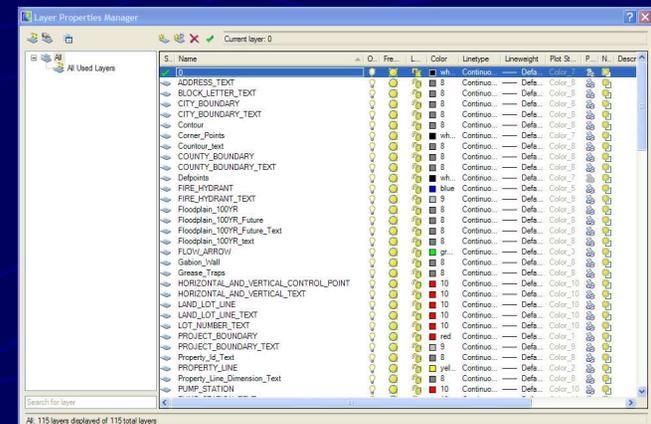
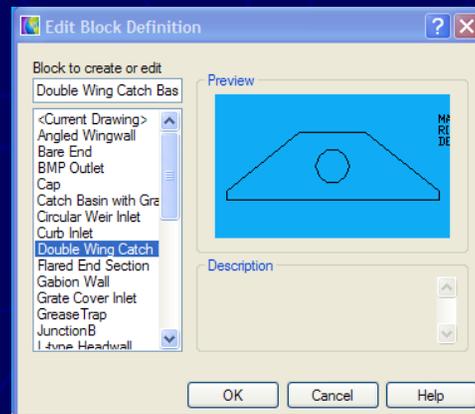
CAD\_Standards.doc  
Revised: 12/2006



- ▶ How can we get this from the CAD format?

# About the templates

- ▶ Created for basic & advanced CAD packages including AutoCAD, AutoCAD LT, TurboCAD, IntelliCAD and so on
- ▶ Includes DWG, DWS, DWT, & DXF
- ▶ Microstation seed files & cell libraries pending





# GOAL: KEEPING THE NETWORKS UP-TO-DATE!

The screenshot displays a web browser window titled "Water Services Map Server - Microsoft Internet Explorer". The address bar shows the URL: [http://wms.gis.fc.ms/master/top.php?dir=water\\_services](http://wms.gis.fc.ms/master/top.php?dir=water_services). The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help), a search bar, and various navigation icons. The main content area features a map with a network of blue lines and dots representing water and wastewater infrastructure. The map is overlaid on a pinkish background. A scale bar at the top left of the map indicates distances of 3200 and 4800 feet. The map includes labels for various streets such as "CALYPSO", "MAXWELL RD", "ROCK MILL RD", "MILL GREEK AV", "SEALE DR", "DAVIS DR", "GA 400 NB", "GA 400 SB", "SUMMER BLDG DR", "ROXBURGH DR", "WINNIE CT", "BANK SIDE DR", "HILLTOP", "YSON CR", "OLD ARABIAN CONNECTOR RD", "SOUTH CHAL DR", "BANK SIDE DR", "ROXBURGH DR", "OLD ARABIAN CONNECTOR RD", "WINNIE CT", "BANK SIDE DR", "HILLTOP", "YSON CR", "OLD ARABIAN CONNECTOR RD", "SOUTH CHAL DR".

On the right side of the map, there is a "Legend" and "Query" panel. The "Layer" section includes:

- Water
  - Water Supply Watershed
  - Water Lines
  - Surface Water Intakes
  - Biological Area and Habitat
  - Fire Hydrants
  - Water Services Facilities
  - Water Tanks
- Drainage
- Aerial Photos
- Environment
- Cip
- Inventory
  - Sewer Manholes
  - Sewer Pipes
  - Water Lines
  - Water Valves
  - Water Hydrants
  - Water Fitting
  - Water Meters

At the bottom of the map area, the text "STORMWATER, WATER, and WASTEWATER NETWORKS" is displayed in red. The browser's status bar at the bottom shows the active tool as "Zoom In", the time as 9:08 AM, and the system tray with various icons.

# Conclusion

- ▶ Standardization is necessary to facilitate economic, time efficiency, and cost reduction to Fulton County *AND the developer community.*
- ▶ Use an already established and successful template/model adapted to Fulton County's needs.
- ▶ There are incentives for compliance.

# Questions & Answers





# Thank You for Attending

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Department of Public Works

