



# Integrating Document Management with ArcGIS Server for Local Governments

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# Paper Problem in Local Gov't



- Tax Parcel Maps
- Property Assessments
- Appraisals
- Plats
- Deeds
- Liens
- Code Violations
- Permits
- Drawings
- Court Records
- Maintenance Records
- Reports
- Council Minutes
- Utility Applications
- Photographs
- Personnel Records

# Extensive Costs of Managing Paper



## Labor

Filing

Retrieving

## Storage

Onsite

Offsite

## Delivery

Copying

Mailing

# Growing Demands on Document Management and Retrieval



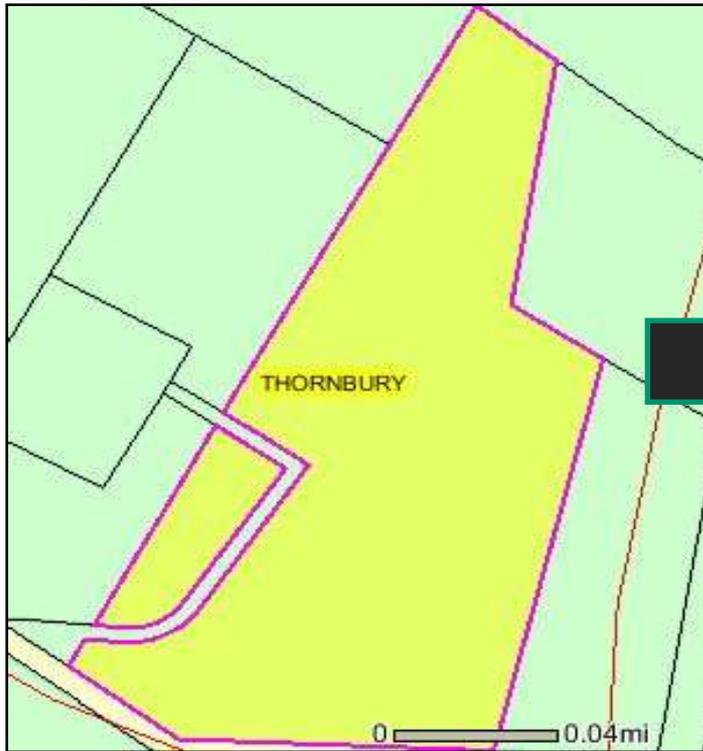
## Population

- New Construction
- Remodeling

## Compliance

- GASB-34
- NPDES/CMOM

# The majority of local government documents relate to parcels



- Tax Parcel Maps
- Property Assessments
- Appraisals
- Plats
- Deeds
- Liens
- Code Violations
- Permits
- Drawings
- Utility Applications
- Photographs
- And Much More

# Most other documents relate to features or locations



- ✓ Maintenance Reports
- ✓ Inspection Reports
- ✓ Theft Reports
- ✓ Other

# Why not link documents to features?



**Click Me!**



**Click on the hydrant and see the inspections for the past 6 yrs**



# Town of South Windsor, CT



- Project Objectives

- South Windsor had an existing document management system (Paper Vision), but no integration with GIS
- Objective was to implement an “enterprise” document management system throughout the entire town
- Integrate the document management system with GIS (allow documents to be linked to features/geography)
- Develop a web-based GIS application that allows users to geographically retrieve documents using map interface
- Migrate legacy document database (Paper Vision) to new system

# Fountains Spatial and docSTAR



## Fountains Spatial

- Leading provider of GIS services in Northeast for past 17 years
- One of the largest ESRI Business Partners in New York
- Specializing in custom GIS applications using ESRI technology
- Develops and hosts ArcGIS Server applications
- Headquarters in Schenectady, NY

## docSTAR

- Leader in document management for 14 years
- Strong presence in local government, insurance & healthcare
- 6,000+ installations
- 75,000+ users and 135 resellers nationwide
- Headquarters in Schenectady, NY

# docSTAR integration with ArcGIS



- Fountains Spatial and docSTAR partnered to integrate docSTAR with ArcGIS
- Extended the docSTAR database and API
- Developed several new applications for the Town of South Windsor (MapConnect)
- MapConnect has two primary components:
  - GeoRef
  - WebView

# MapConnect GeoRef



- Document Georeferencing application
- Standalone EXE based on ArcGIS Engine
- Works alongside DocStar client
- User scans and files a document in docSTAR, then georeferences document (individual or batch)
- User can georeference documents to:
  - A feature in any layer; or,
  - A general geographic area (rectangle)

# MapConnect WebView



- Web-based GIS application for geographic retrieval of documents
- Based on ESRI's ArcGIS Server 9.3 technology
- Provides general GIS functionality as well as the ability to retrieve and view documents by:
  - Selecting features from any layer; or,
  - Defining an area of interest on the map display

# Filing Documents with docSTAR



DocSTAR - [Avery Pond Dredging]

File Edit View Page Records Management View Link Item Windows Help

Search Result Page 1 of 1 Document 1 of 1

## Town of South Windsor BONDED CAPITAL PROJECTS

### AVERY BROOK POND CHANNEL DREDGING

Project Description

The Avery Brook Channel discharges into a pond behind the Benedict Drive Sewer pumping station. As a result of sediment flowing down the brook and into the pond, a large delta of sand has been created that impedes the flow of water into and through the pond. This contributes to high water levels in the Avery Brook concrete channel diminishing its effectiveness. It also slows the flow in the natural channel so silt is deposited there. This has increased Town maintenance required to keep the Avery Brook drainage system working properly. This project is on Avery Heights Water Association property.

Recommended Solution

The accumulated sediment in the Avery Brook channel and pond needs to be removed by cleaning the channel and dredging the pond.

Schedule

Engineering	2008-2011
Easements/ROW	2009
Construction	2011

Status (as of 12/1/08)

The Town has hired the National Resource Conservation Service to conduct a study of Avery Brook Pond to determine the amount of sediment that has been deposited in this pond.

Title: Avery Pond Dredging

Keywords:

Custom Fields:

Category: PROJECTS

Geostatus\$: F

GISID\$: 87301407

Template: Zoning Native [...]

Security Class: PUBLIC [...]

Record Category: (None) [...]

Package [button]

Folder [button]

Send To [button]

Document Information

Created: 11 May 2009 13:18:16

Modified: 11 May 2009 13:55:47

Last Accessed: 11 May 2009 14:12:49

Verify Authentidate: Verified Date: 05/11/2009 Filed: Yes

Show Text [button] Open Document [button] Save Changes [button]

Close Window [button]

# Georeferencing Documents



MapIt! Geofeference

**Choose Documents to be Georeferenced**

Show documents that are:  In the following Category:

	DocID	Title	Pages	ClassName	Date
▶	12	Zoning Ordinance	1	PUBLIC	3/18/2009 10:08:33 AM
	14	Barcode Guide	21	PUBLIC	3/18/2009 10:21:12 AM

Refresh List

Search

View Document

Georeference

Exit

# Georeferencing Documents



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View Document

Georeference

Exit

# Feature-based Georeference

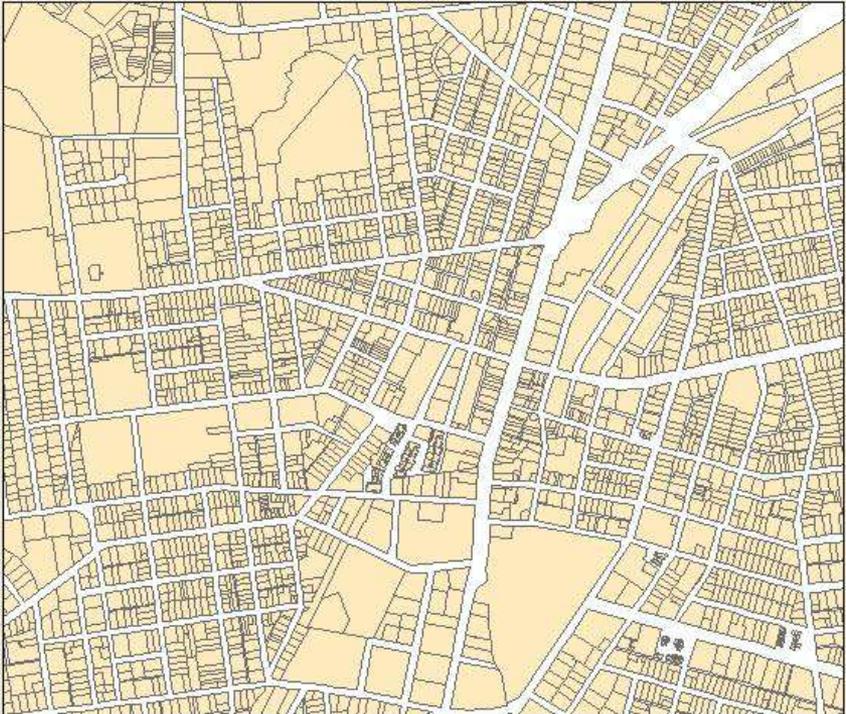


MapIt! Georeference

Step 1 - Reference Type | Step 2 - Map Selection

Feature-Based Georeference  
 Area-Based Georeference  
 Import Georeference from Existing Document

Cancel Next -> Finish



Layers

- parcels

Documents to be Georeferenced

	DocID	Title	Pages	ClassName	Date
▶	14	Barcode Guide	21	PUBLIC	3/18/2009 10:21...
	12	Zoning Ordinance	1	PUBLIC	3/18/2009 10:08...

Double-Click on a row to view the document

# Feature-based Georeference



MapIt! Georeference

Step 1 - Reference Type    Step 2 - Map Selection

**Feature-Based Reference**

Select Layer: parcels

Select Map Feature

Cancel    <- Back    Finish

**Selected Feature:**

SWIS_SBL	4115011650000...
SWIS	411501
Muni	SARATOGA SP...
SBL	4115011650000...
Print_Key	165-3-22
Grid_East	681617
Grid_North	1550927
Loc_Number	131
Loc_Street	Lawrence St
Deed_Book	1391
Deed_Page	154
Roll_Year	2008
Owner1	WESLEY HEALT...
Owner2	
Mail_1Addr	131 Lawrence St
Mail_2Addr	
Mail_City	Saratoga Springs
Mail_State	NY
Mail_Zip	12866
Frontage	600

**Layers**

- parcels

**Documents to be Georeferenced**

	DocID	Title	Pages	ClassName	Date	Category
▶	12	Zoning Ordinance	1	PUBLIC	3/18/2009 10:08...	ZONING
	14	Barcode Guide	21	PUBLIC	3/18/2009 10:21...	Zoning

Double-Click on a row to view the document

# Area-based Georeference



MapIt! Georeference

Step 1 - Reference Type | Step 2 - Map Selection

**Area-Based Reference**

Drag Rectangle to Define Area

Cancel <- Back Finish

**Selected Extent:**

X Min= 680601  
Y Min= 1548598  
X Max= 683178  
Y Max= 1551125



**Layers**

- parcels

**Documents to be Georeferenced**

	DocID	Title	Pages	ClassName	Date	Category
▶	12	Zoning Ordinance	1	PUBLIC	3/18/2009 10:08...	ZONING
	14	Barcode Guide	21	PUBLIC	3/18/2009 10:21...	Zoning

Double-Click on a row to view the document

# Moving Forward...



- Complete the project for South Windsor by June
- MapConnect will be “productized” and offered as an extension to docSTAR this summer
- Currently building an ArcMap toolbar
- MapConnect will include:
  - GeoRef (ArcGIS Engine EXE)
  - WebView (ArcGIS Server app)
  - ArcMap toolbar
  - Optional hosted version of WebView

# Questions?



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