

Agenda

- Why Address Points?
- About West Hartford
- Addressing Background
- Project Goals
- Design Considerations
- Application Design
- Final Workflow
- CityView Integration
- Application Demonstration



Why Address Points?

- Central Address Database
 - Saves Lives
 - Saves Time
 - Improves Services
- Federal (NTIA) funding from Broadband Mapping Initiative for States
- Address Points for the Nation (NSGIC)

http://nsgicftp.gisinventory.net/download/Address_Points_FTN_Brochure_050411_Final.pdf

The image shows the cover of a brochure titled "Address Points for the Nation" from NSGIC. The cover features the NSGIC logo and the title in a large, serif font. Below the title, it says "Contrasting the functions of Address Points and Parcel Maps" and "A NSGIC ISSUES BRIEF MAY 4, 2011". The main headline is "Government needs a Central Address Database with Map Coordinates (Points)". There are three columns of text: "To Save Lives", "To Save Energy & Time", and "To Improve Services". A "Current Situation" section is also visible at the bottom.

Working effectively together, we can:

- Save lives
- Reduce costs
- Avoid duplication
- Increase revenues
- Improve service
- Foster efficient & effective government

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Address Points for the Nation

Contrasting the functions of Address Points and Parcel Maps
A NSGIC ISSUES BRIEF MAY 4, 2011

Government needs a Central Address Database with Map Coordinates (Points)

To Save Lives
Addresses are the most commonly used way to communicate the location of an emergency. Fire and police agencies respond to emergencies that are reported to the 911 call centers known as Public Safety Answering Points (PSAPs). The PSAPs across the nation use many different ways of locating people in distress. Address points allow them to pinpoint the locations of structures so that even at night, or in a dense fog or snow that limits visibility you can get to the correct location right away. Going to the wrong house in the case of a heart attack can waste several minutes and cost lives.

To Save Energy & Time
Many government agencies operate large fleets of vehicles. For example, the U.S. Postal Service manages over 218,000 vehicles in the largest civilian fleet on Earth. Its vehicles are driven 4.1 million miles per day to 150 million residences and consume over 400,000 gallons of fuel each day. While the USPS routing may already be optimized, many other fleet operations are not. The use of precise address points is required to achieve the maximum efficiency in Automated Vehicle Routing software that can typically save up to 15% of the fuel and maintenance costs for a vehicle fleet and allow existing staff to accomplish their work more efficiently.

To Improve Services
Addresses are used to locate residences, businesses and other "built" locations, for the provision of nearly all government services such as utility hookups, in-home social services, licensing and permitting. The private sector also uses accurate addresses to improve its bottom line and customer service. In 2003, Sears reported that they reduced their route planning time from four hours per day to less than one for appliance deliveries and improved its customer delivery window from four hours to two in 82 percent of deliveries. Simultaneously, delivery mileage was reduced and equipment utilization and stops per vehicle increased.

Current Situation

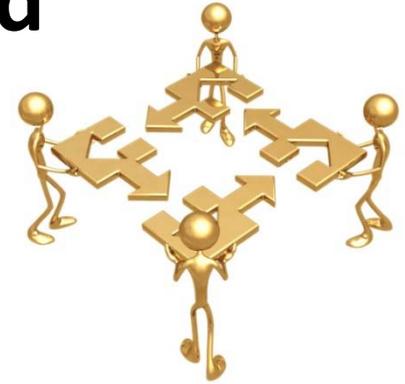
In the first half of 2009, the U.S. Census Bureau developed a highly accurate, national address database of residential structures that included x, y map coordinates with the addresses. The cost of this effort was \$444 million. Because this file is not publicly available, in 2010 the National Telecommunications Information Agency (NTIA) issued millions of dollars in grants to states to create address point files as part of their broadband mapping efforts. The U.S. Postal Service also plans to build an address point file in 2011 that will not be publicly accessible. Local governments routinely produce address point files for E-911 and other applications. Some states already integrate the efforts of local government into comprehensive statewide files. Multiple files of varying quality and completeness exist throughout the country that are based on varying standards. This has happened, because there is no national program or leadership to address this issue. Congress has contributed to the problem by authorizing agencies like the Census Bureau through Title 13 and the U.S. Postal Service through Title 39 to treat addresses as confidential information which they are not. NTIA is taking the right approach to build publicly accessible data. Agencies that must restrict access to data should be consumers and not producers of address data.

West Hartford CT

- ~22 Square Miles
- 61,173 population
- 19,964 parcels
- 2,413 of Condo's
- ~26,905+ addresses
- Extremely Service Oriented
- Financially assisted development of own mall – Blue Back Square (condos, apartments, up-scale retail)



Addressing Background



- **Planning Department**
 - Assigns new addresses
 - Originate/approve address changes
- **Assessing Department**
 - Assigns new or changes existing Property ID & address info for CAMA
- **Building Department**
 - Issues permits at new or changed addresses
- **GIS Coordinator**
 - Maintains data/maps that rely on accurate Property IDs and Addresses
- **Town Clerk** maintains most recent owner names for addresses
- **School Department** needs new/changed address info for districting and routing
- **Police Department** uses GIS shapefiles in CAD system
- And on and on...

Addressing Background



- Paper memos and long wait times between departments
- Tax payers visit multiple departments, over multiple days
- Permits needing current addresses took weeks/months of wait time
- No automatic interdepartmental notification system
- Unknown exact address locations on multi-address parcels (retail, condos, apartments)



Project Goals

- To improve citizen service & address tracking process
- To build a system that allows for **multiple departments** to update the master address data
- Provide a **secure** and specific **workflow**
- Automatically **feed changes** to the permitting database
- Provide an automated interdepartmental based **notification system**

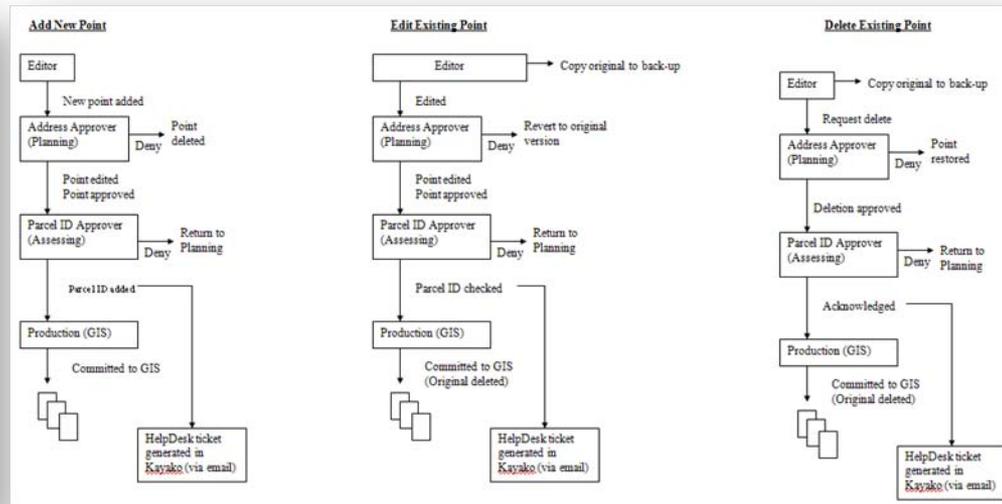
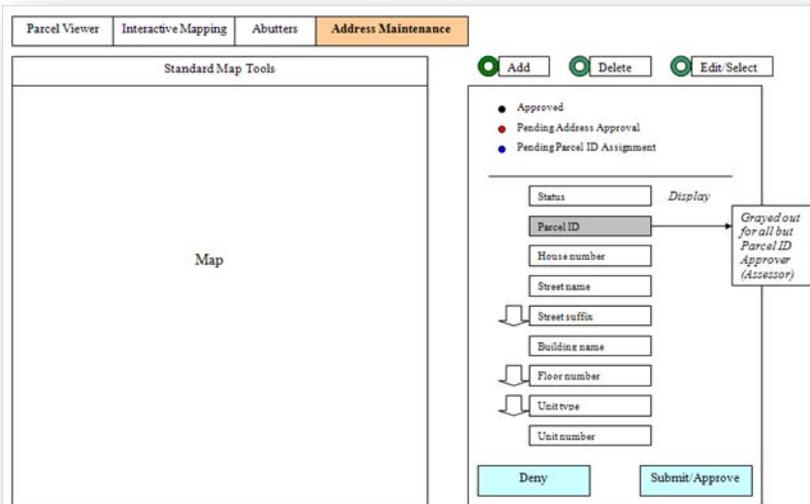


Design Considerations

- **Web-based** application allows for multiple users and consumers of same information
- Already building a GIS-based web-site
- Add an **Address Maintenance functionality** to web-site
- Set up **RSS feed** for notification of changes
- Create procedures to **consume data** from **web service** to update CityView



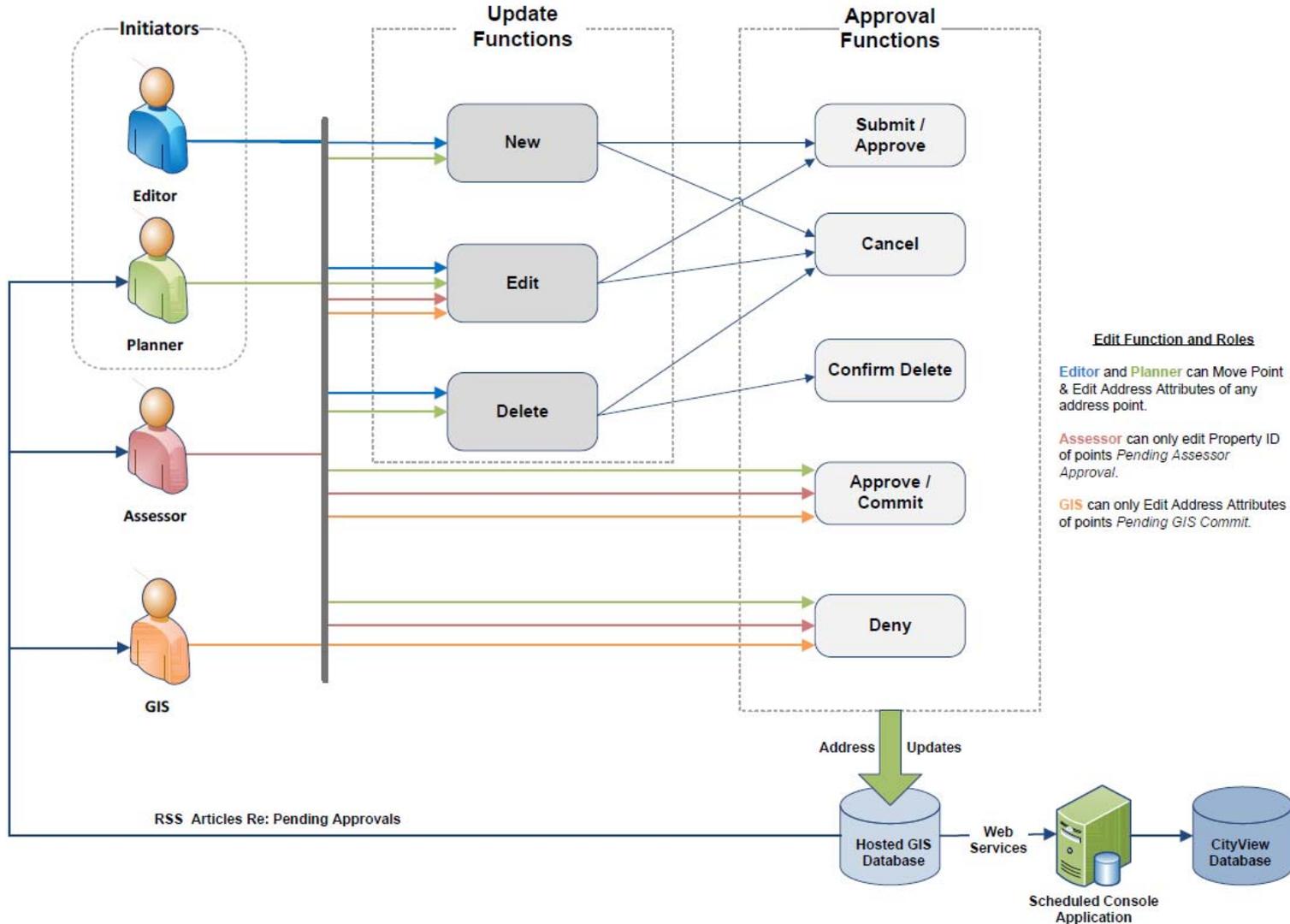
Application Design



User Role	Action	Status	Town	Tools	Editor	Address Approver	Parcel ID Approver	Production
Select	New	Approved	show	Select	show	show	show	show
		Pending Address	show	Select	show	show	show	show
		Pending Parcel ID	show	Select	show	show	show	show
	Edit	Pending Production	show	Select	show	show	show	show
		Pending Address	show	Select	show	show	show	show
		Pending Parcel ID	show	Select	show	show	show	show
Delete	Pending Production	show	Select	show	show	show	show	
	Pending Address	show	Select	show	show	show	show	
	Pending Parcel ID	show	Select	show	show	show	show	
New Edit	Approved	edit	show	Select	edit	edit	edit	edit
	Pending Address	edit	show	Select	edit	edit	edit	edit
	Pending Parcel ID	edit	show	Select	edit	edit	edit	edit
Edit	Pending Production	edit	show	Select	edit	edit	edit	edit
	Pending Address	edit	show	Select	edit	edit	edit	edit
	Pending Parcel ID	edit	show	Select	edit	edit	edit	edit
Delete	Approved	advance	show	Select	advance	advance	advance	advance
	Pending Address	advance	show	Select	advance	advance	advance	advance
	Pending Production	advance	show	Select	advance	advance	advance	advance
Submit	Approved	advance	show	Select	advance	advance	advance	advance
	Pending Address	advance	show	Select	advance	advance	advance	advance
	Pending Production	advance	show	Select	advance	advance	advance	advance
Approve	Approved	advance	show	Select	advance	advance	advance	advance
	Pending Address	advance	show	Select	advance	advance	advance	advance
	Pending Parcel ID	advance	show	Select	advance	advance	advance	advance
Deny	Approved	revert	show	Select	revert	revert	revert	revert
	Pending Address	revert	show	Select	revert	revert	revert	revert
	Pending Parcel ID	revert	show	Select	revert	revert	revert	revert
Commit	Approved	commit	show	Select	commit	commit	commit	commit
	Pending Address	commit	show	Select	commit	commit	commit	commit
	Pending Production	commit	show	Select	commit	commit	commit	commit

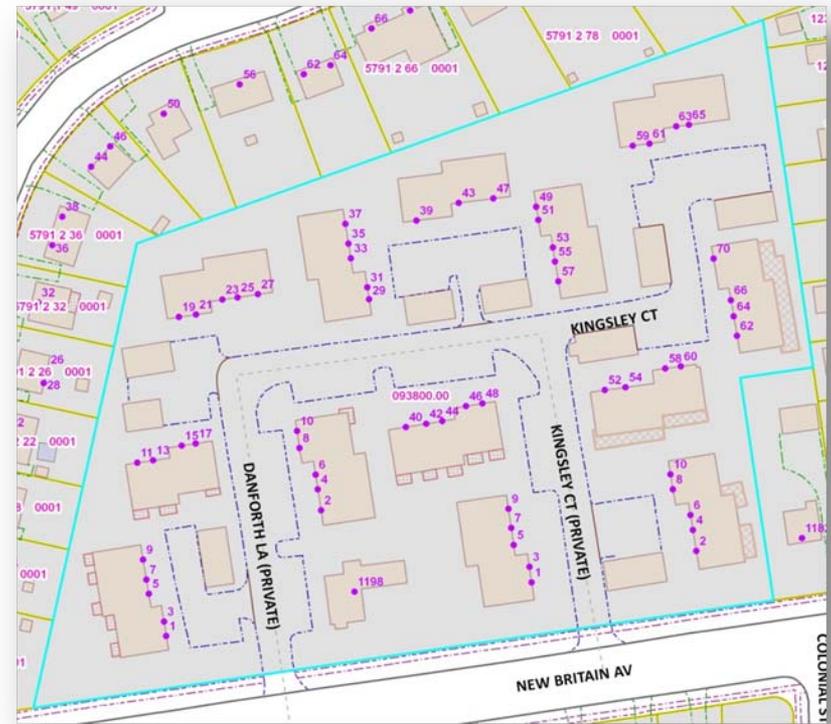
Final Workflow

West Hartford, CT Address Maintenance Application Workflow



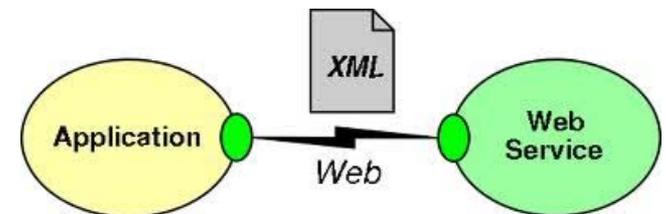
CityView

- Permits & Inspections product in the CityView Suite
- Originally based on parcels only
 - Problem of creating permits for address on multi-address parcels
- Updated to be based on addresses to resolve
 - Easier for citizens & contractors
 - Easier for staff to track/find permits issued



CityView Integration

- RDBMS – SQL Server 2008 database (~2.2 GB)
- Built C# console based application
 - Automated download process with Windows Task Scheduler
 - Consumes XML web services hosted at AppGeo
 - Transforms XML into address points
 - Inserts into SQL Server
- Main issue considered was performance
- Solution: download only subset of points based on last run time

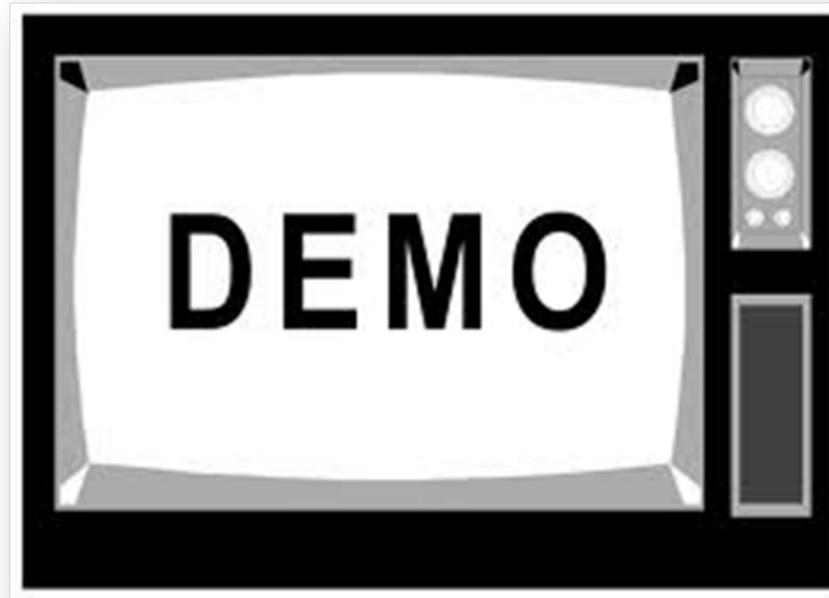


Address Point Data Model

- FGDC Address Data Model
 - Huge and complex
 - Didn't need everything in it
 - <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/street-address>
- CT GIS Council Addressing Workgroup
 - Modified version of FGDC data model
 - Includes core, important fields meeting needs
 - <http://www.ct.gov/gis/cwp/view.asp?a=3034&q=410292>



Application Demonstration



Thank You

If you have any questions:



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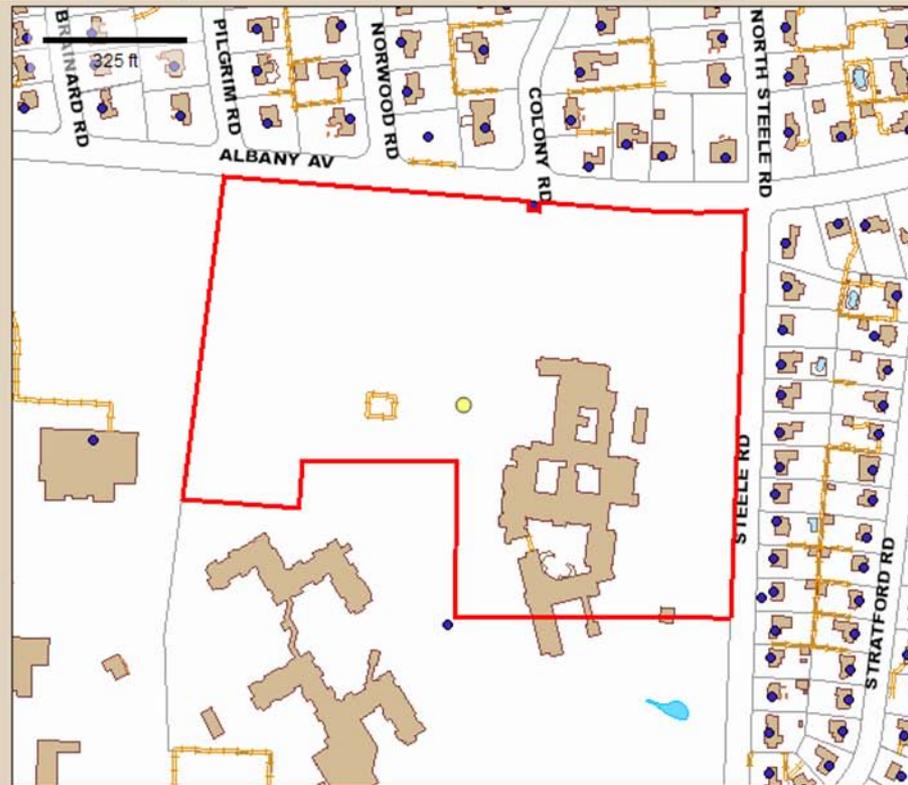


TOWN OF WEST HARTFORD

ONLINE PROPERTY VIEWER

- PROPERTY VIEWER
- INTERACTIVE MAPPING
- ABUTTERS PROPERTIES
- ADDRESS MAINTENANCE

Email Map Property Card Print Map New Search



Property ID 0031 1 2021 0001
 Location 2021 ALBANY AVENUE
 Owner ST MARYS HOME INCORPORATED,

Selects an address point on the map

Property ID 0031 1 2021 0001
 House Number 2021
 Street Name ALBANY AVENUE
 Building ID
 Floor ID
 Unit ID
 Location
 Action
 Status Approved

Address Status

- Approved
- Pending Planning Approval
- Pending Assessing Approval
- Pending GIS Commit

Address Updates News Feed

Map navigation controls including zoom in (+), zoom out (-), scale (Scale 1" = 325 ft), and various tool icons.

Site by AppGeo
Build beta 1.1

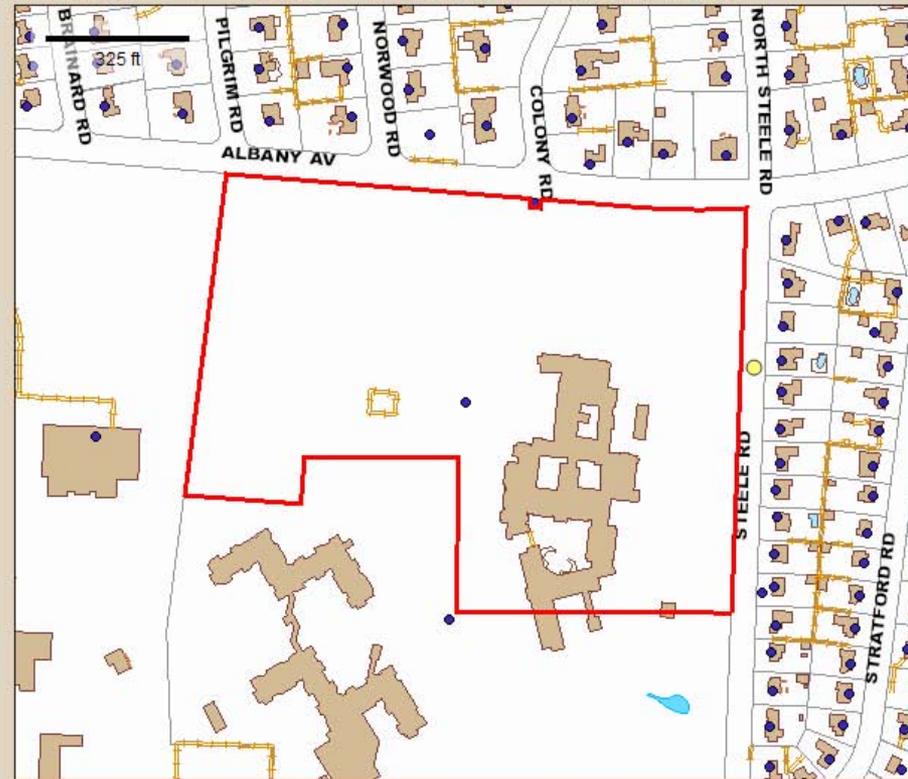


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ONLINE PROPERTY VIEWER

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- ADDRESS MAINTENANCE

Email Map Property Card Print Map New Search



Property ID 0031 1 2021 0001
 Location 2021 ALBANY AVENUE
 Owner ST MARYS HOME INCORPORATED,

Moves the selected address point on the map

Property ID

House Number

Street Name

Building ID

Floor ID

Unit ID

Location

Action

Status

Address Status

- Approved
- Pending Planning Approval
- Pending Assessing Approval
- Pending GIS Commit

Address Updates News Feed

Navigation icons: Home, Back, Forward, Refresh, Print, etc. Scale 1" = ft

Site by AppGeo
Build beta 1.1



ONLINE PROPERTY VIEWER

TOWN OF WEST HARTFORD

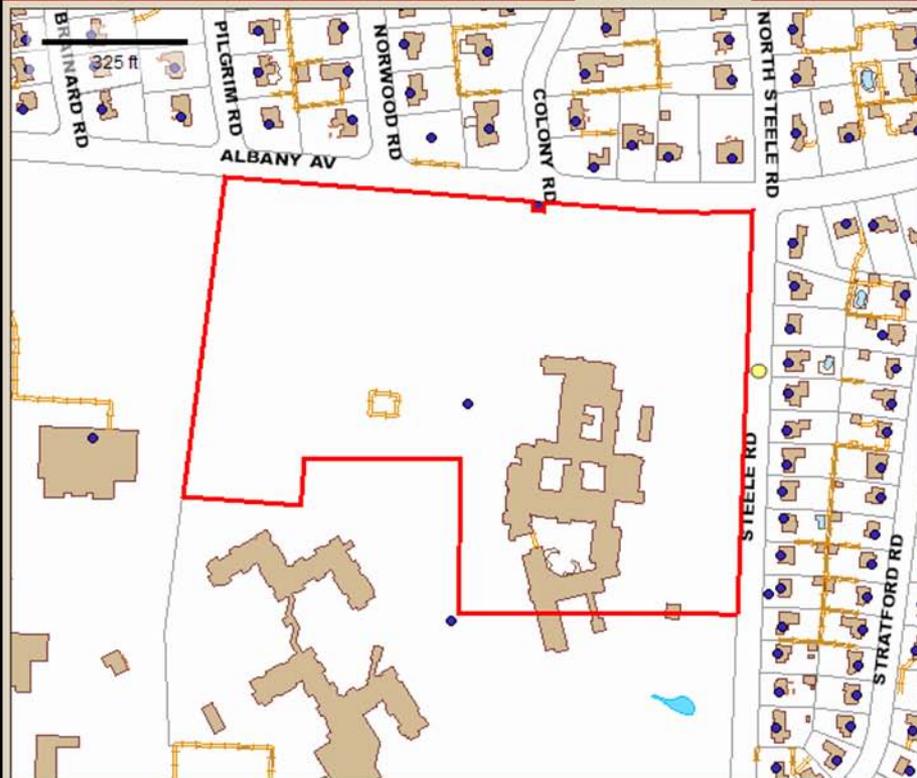
PROPERTY VIEWER

INTERACTIVE MAPPING

ABUTTERS PROPERTIES

ADDRESS MAINTENANCE

Email Map Property Card Print Map New Search



Property ID	0031 1 2021 0001
Location	2021 ALBANY AVENUE
Owner	ST MARYS HOME INCORPORATED,

Selects an address point on the map

Property ID	
House Number	2025
Street Name	ALBANY AVENUE
Building ID	
Floor ID	
Unit ID	
Location	TEST
Action	New
Status	Pending Assessing Approval

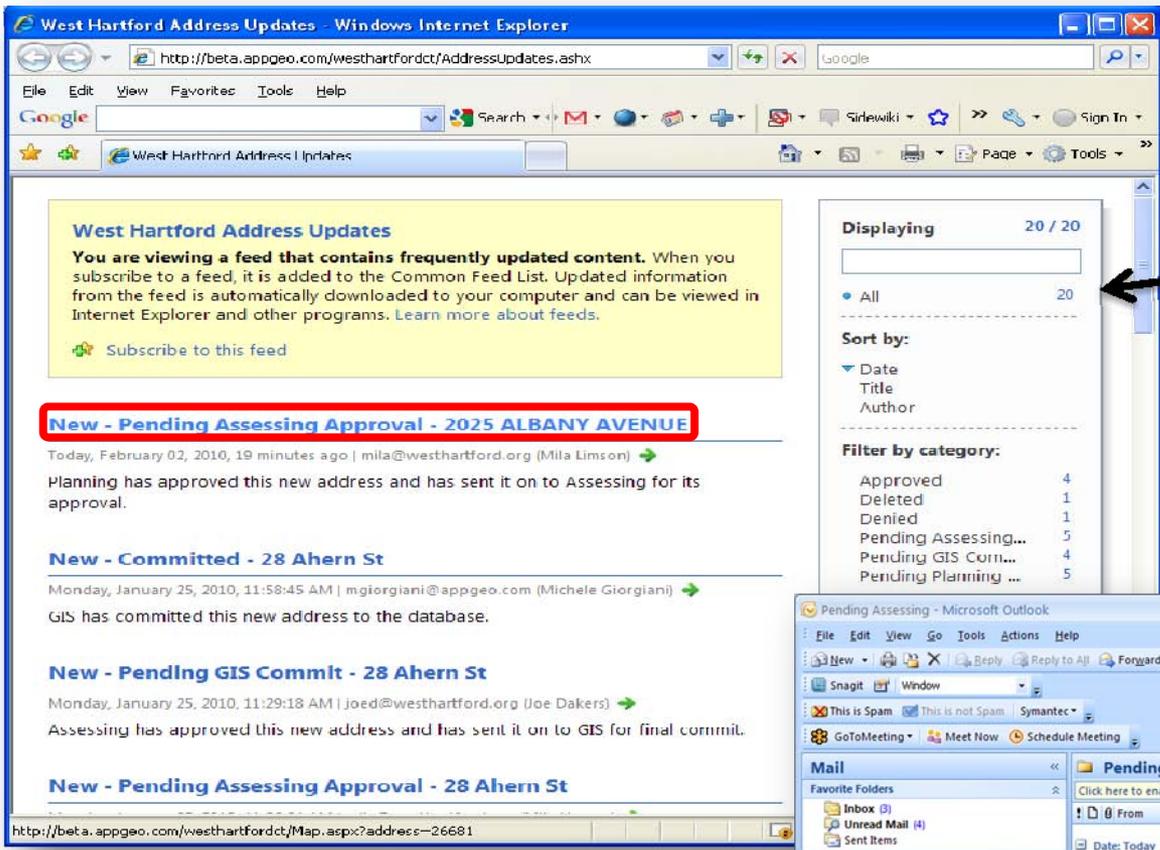
New

- Address Status
- Approved
 - Pending Planning Approval
 - Pending Assessing Approval
 - Pending GIS Commit

Address Updates News Feed

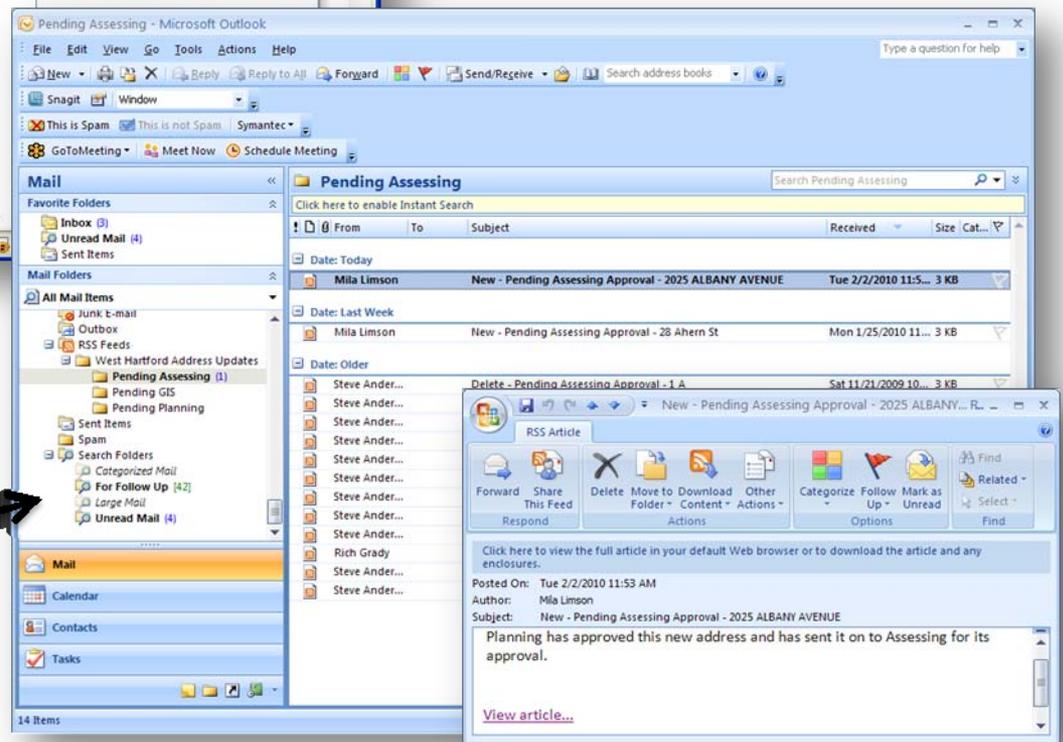
Map navigation tools including a compass, scale bar (Scale 1" = 325 ft), and various interactive icons.

Site by AppGeo
Build beta 1.1



Full RSS feed web page

RSS feed in Outlook, categorized by Pending Status

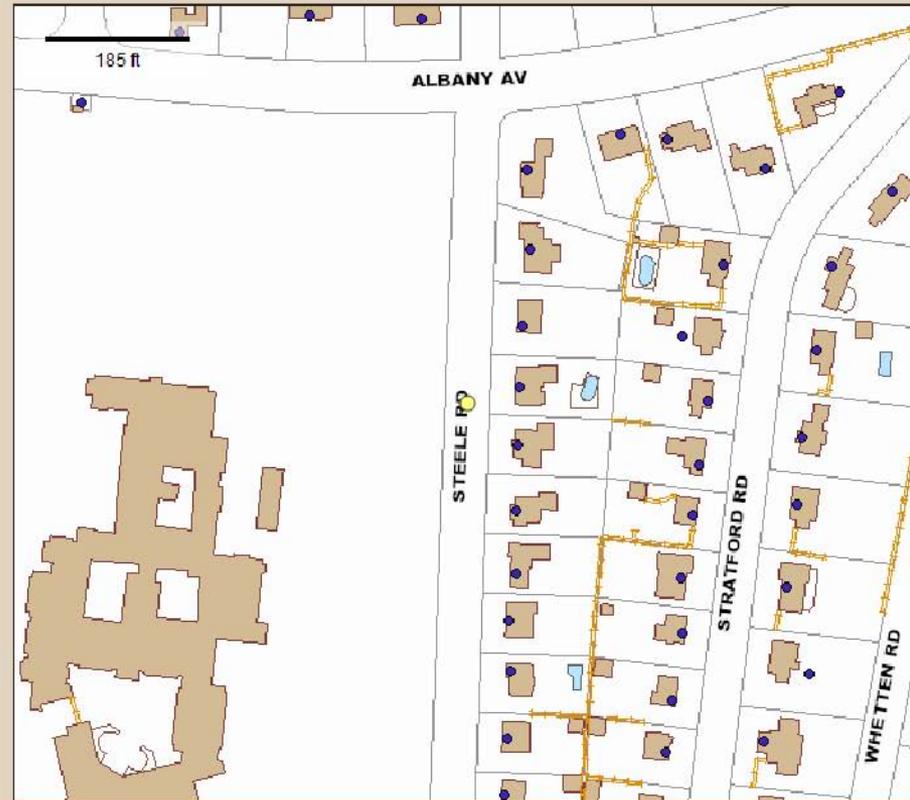




ONLINE PROPERTY VIEWER

- PROPERTY VIEWER
- INTERACTIVE MAPPING
- ABUTTERS PROPERTIES
- ADDRESS MAINTENANCE

[Email Map](#) [Property Card](#) [Print Map](#) [New Search](#)



Property ID
Location
Owner

Selects an address point on the map

Property ID
House Number 2025
Street Name ALBANY AVENUE
Building ID
Floor ID
Unit ID
Location TEST
Action New
Status Pending Assessing Approval

- Edit
- Approve
- Deny

- Address Status
- Approved
 - Pending Planning Approval
 - Pending Assessing Approval
 - Pending GIS Commit

Address Updates News Feed

Map navigation tools including zoom in (+), zoom out (-), scale (1" = 185 ft), and various map interaction icons.

Site by AppGeo
Build beta 1.1



TOWN OF WEST HARTFORD

ONLINE PROPERTY VIEWER

PROPERTY VIEWER

INTERACTIVE MAPPING

ABUTTERS PROPERTIES

ADDRESS MAINTENANCE

Email Map Property Card Print Map New Search



Property ID
 Location
 Owner

Disabled; clicking on the map will have no effect

Property ID

House Number 2025

Street Name ALBANY AVENUE

Building ID

Floor ID

Unit ID

Location TEST

Action New

Status Pending Assessing Approval

- Address Status
- Approved
 - Pending Planning Approval
 - Pending Assessing Approval
 - Pending GIS Commit

Address Updates News Feed

Map navigation toolbar including zoom in (+), zoom out (-), scale (185 ft), and various map interaction icons.

Site by AppGeo
Build beta 1.1

