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# **Mobile Data Development in Loudoun County, Virginia**

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# Overview

- Loudoun County
  - Where in the world?
  - Loudoun County's GIS
- AOL Monster Help Day
  - Purpose
  - Tool Development
  - Roadblocks/Setbacks/Solutions
  - Demo results
- Additional Mobile Development Projects

# Loudoun County, Virginia



**“Silicon Valley of the East.”**

*~CNN Money*

**“Up to 70% of the world's internet traffic passes through Loudoun County on a daily basis.”**

*~Loudoun County Economic Development Department*

# Loudoun County: Early adopter of GIS

- 1979: Began photogrammetric capture of basemap
- 1986: Purchased **ESRI License # 34**
- Today: Over 200 staff access
  - Distributed GIS, with integration into multiple departments, jurisdictions, and information systems

# Mobile Solutions

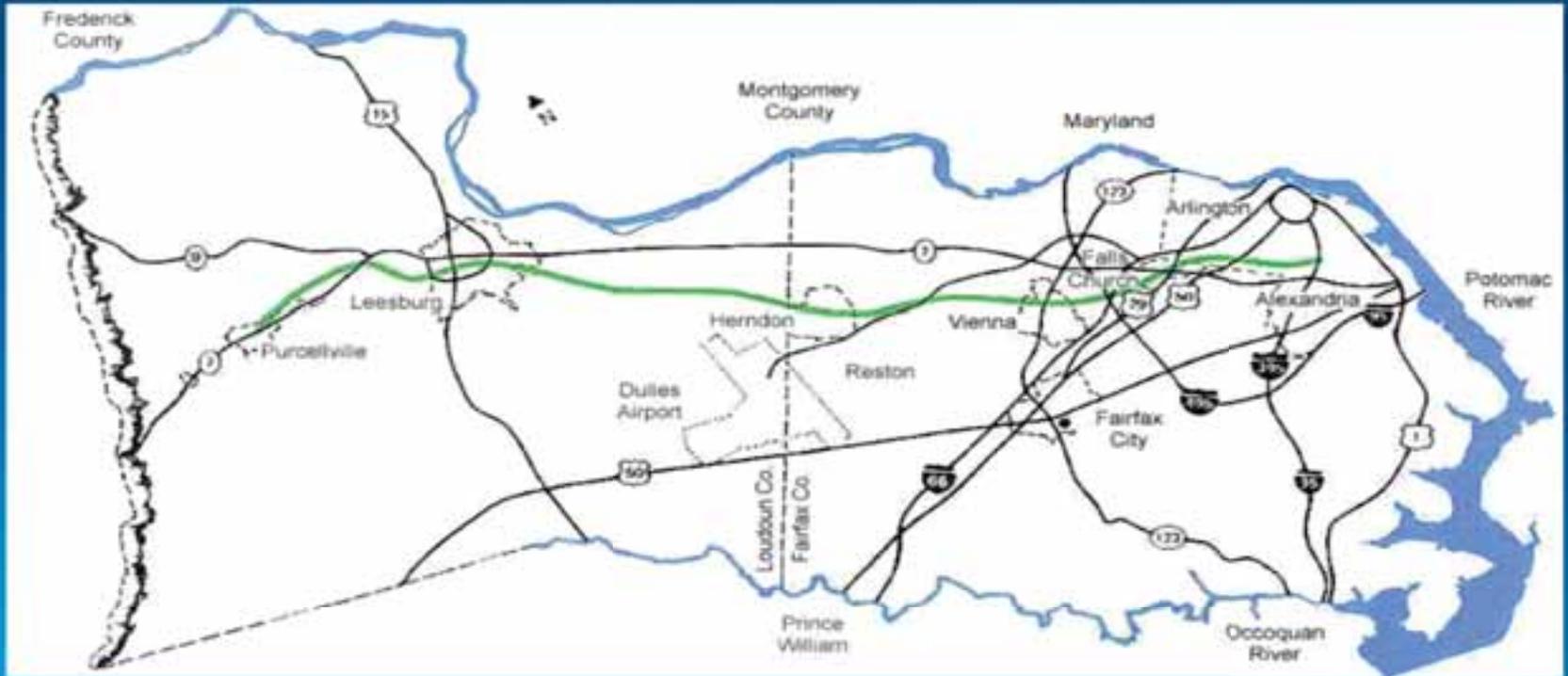
- **Top Priority for Loudoun County!**
- Goal: Increase efficiency, improve job performance and simplify tasks.
- Current Status: Steps in the right direction . . . . .
  - **AOL Monster Help Day: Data Collection**  
*(ArcGIS for Smartphones and Tablets)*
  - **Other Mobile Applications**  
*(ArcGIS for Windows Mobile)*  
*(Web Browser Mobile Applications)*

# Crowd Sourcing in Loudoun County

- Bike Loudoun approached Loudoun County in 2009.
- Loudoun County had 50% of trails and sidewalks mapped.
- The original plan included using Google Earth.
- Then came the Community Base Map, ArcGIS.com and the App Store.

# Crowd Sourcing in Loudoun County

- AOL requested assistance with AOL Monster Help Day in 2013.
- AOL Monster Help Day 2013.



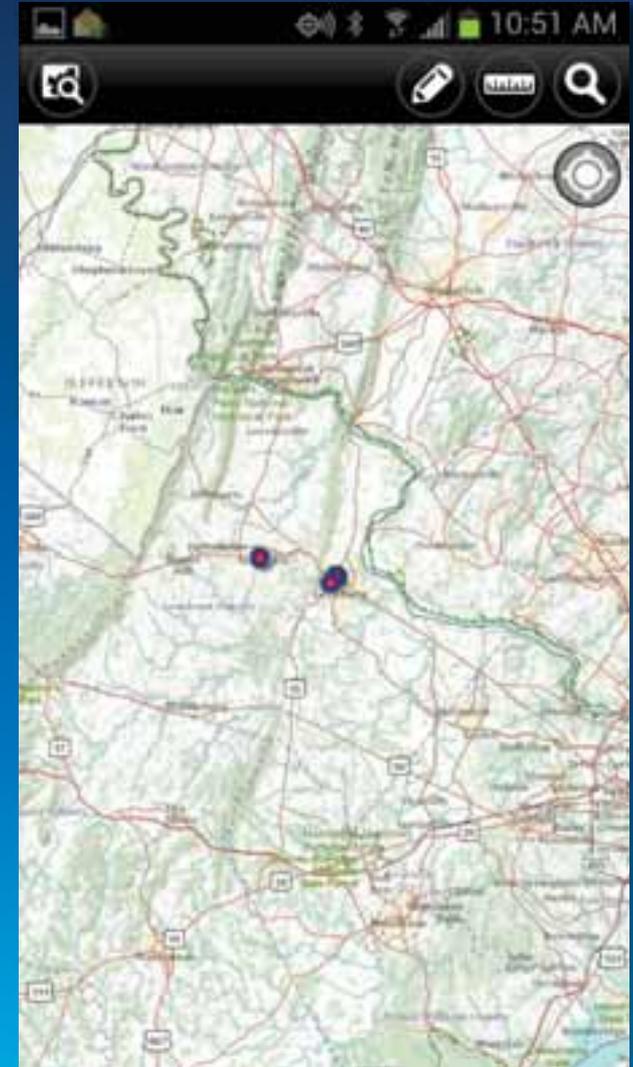
Source: [www.wodfriends.org](http://www.wodfriends.org)

# Crowd Sourcing in Loudoun County

- Loudoun County is a participant in the Community Base Map program.
- Loudoun County purchased five ArcGIS.com licenses.
- This would be the county's first crowd sourced data collection effort.
- At this point, 100% of the county's trails and sidewalks were now mapped.

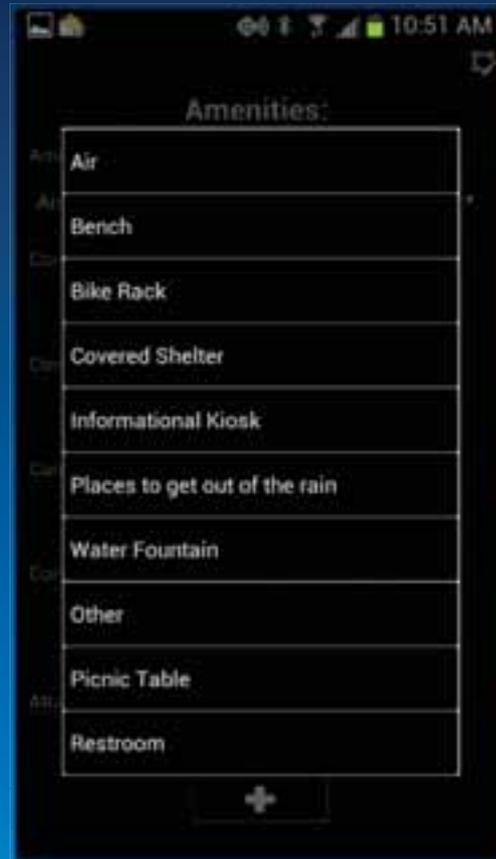
# Crowd Sourcing in Loudoun County

1. Stood up ArcGIS Online map.
2. Downloaded and configured the ArcGIS app.
3. Tested iPhone and Android devices.
4. Created iPhone and Android device training manuals.
5. Held a conference call training with AOL volunteers.

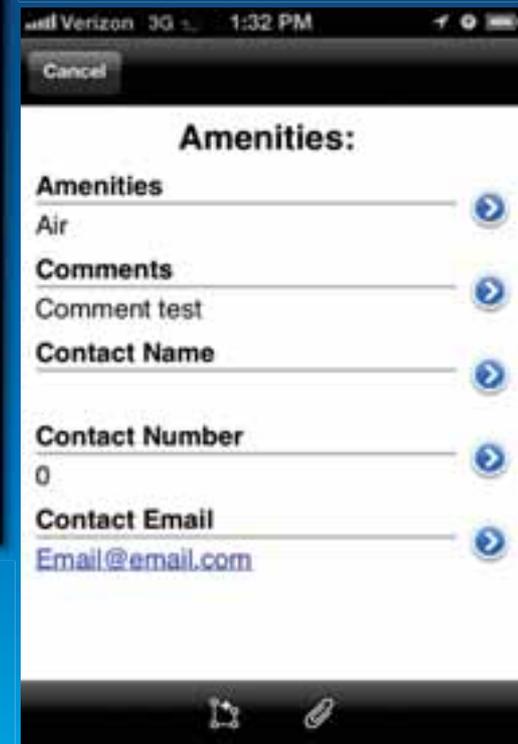


# Crowd Sourcing in Loudoun County

- Features Collected:
  - Amenities
    - Air
    - Benches
    - Picnic tables
    - Shelters
    - Water fountains
    - Information kiosks
    - Bike Racks
    - Restrooms
  - Points of Interest
    - Heritage signs
    - Coffee shops
    - Mile markers
    - Trail crossings



*Android Interface*



*iPhone Interface*

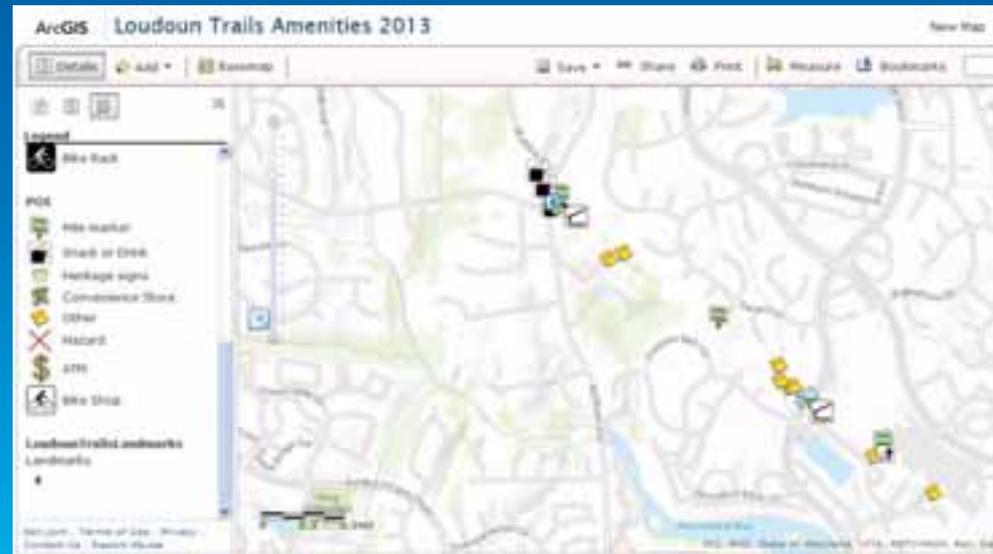
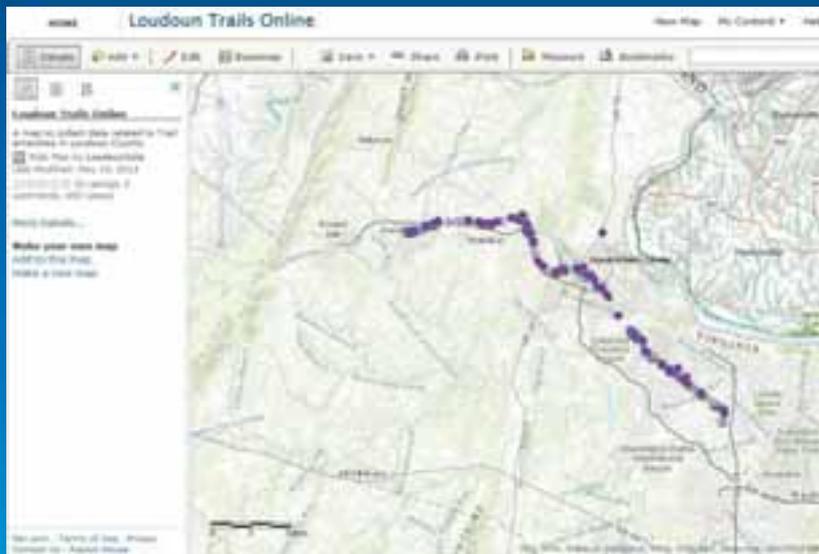
# AOL Monster Help Day 2013



- A group of AOL volunteers met at the W&OD trail.
- We had a safety and instruction briefing.
- Groups of 3 to 5 volunteers road bicycles to their assigned trail segments.

# AOL Monster Help Day 2013

- The group collected 270 points along the trail in about four hours.
- They were able to coordinate their work real time through the ArcGIS app.



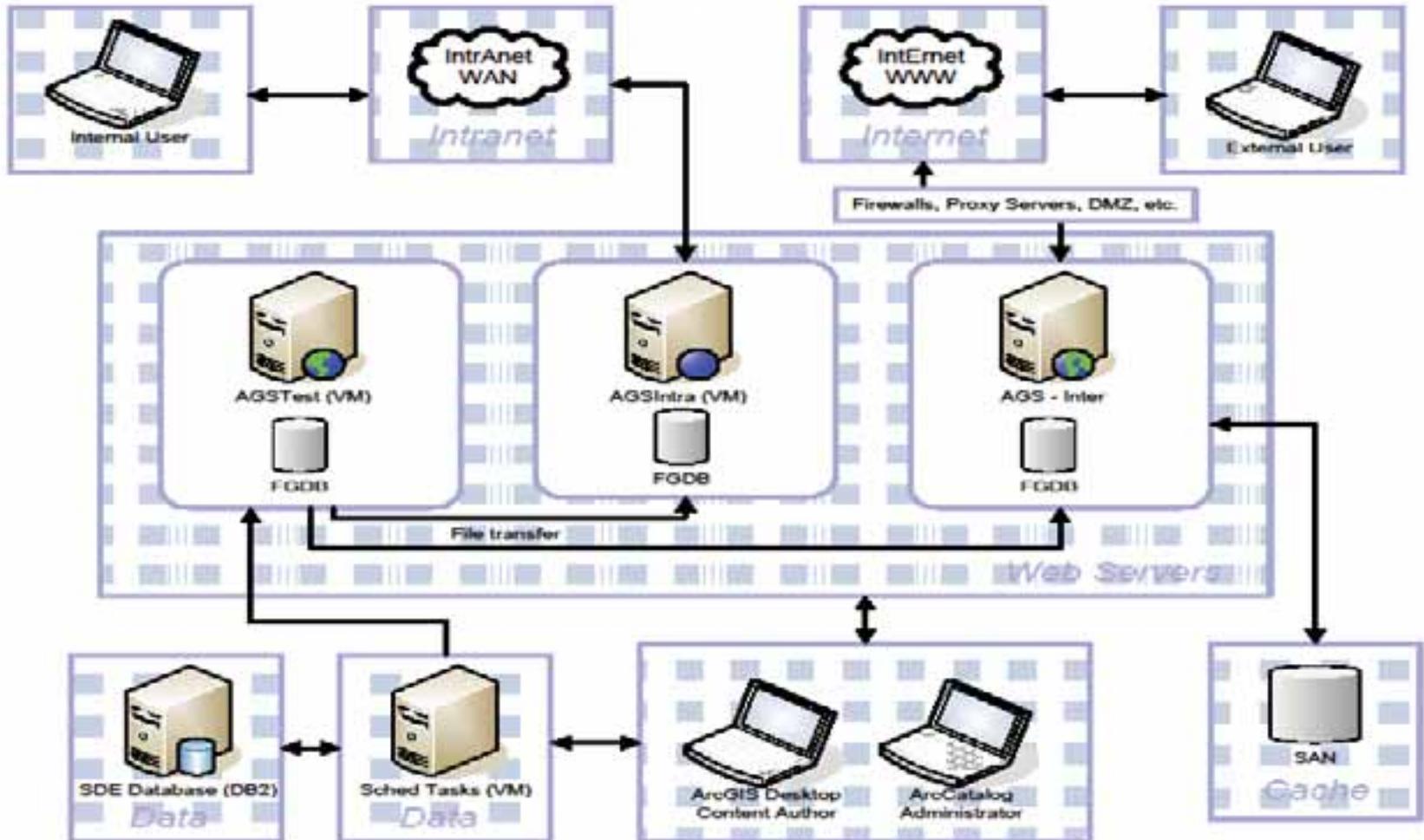
# Amenities along the Trail . . .



# AOL Monster Help Day 2013



# AOL Monster Help Day 2013 ArcGIS Server Setup



Loudoun County, VA 11/2011

# AOL Monster Help Day 2013

## ArcGIS for Smartphones and Tablets :



# AOL Monster Help Day 2013



gis\_mobile.GISSOC.TrailAmenities\_Online  
gis\_mobile.GISSOC.TrailAmenities\_Online\_\_ATTACH  
gis\_mobile.GISSOC.TrailAmenities\_Online\_\_ATTACHREL

Field Name	Data Type
OBJECTID	Object ID
Amenities	Text
Comments	Text
ContactName	Text
ContactEmail	Text
DateSubmitted	Date
SHAPE	Geometry
ContactNumber	Text

Coded Values:

Code
Air
Bench
Bike Rack
Covered Shelter
Informational Kiosk
Places to get out of the ra
Water Fountain
Other
Picnic Table
Restroom
Trash Bin

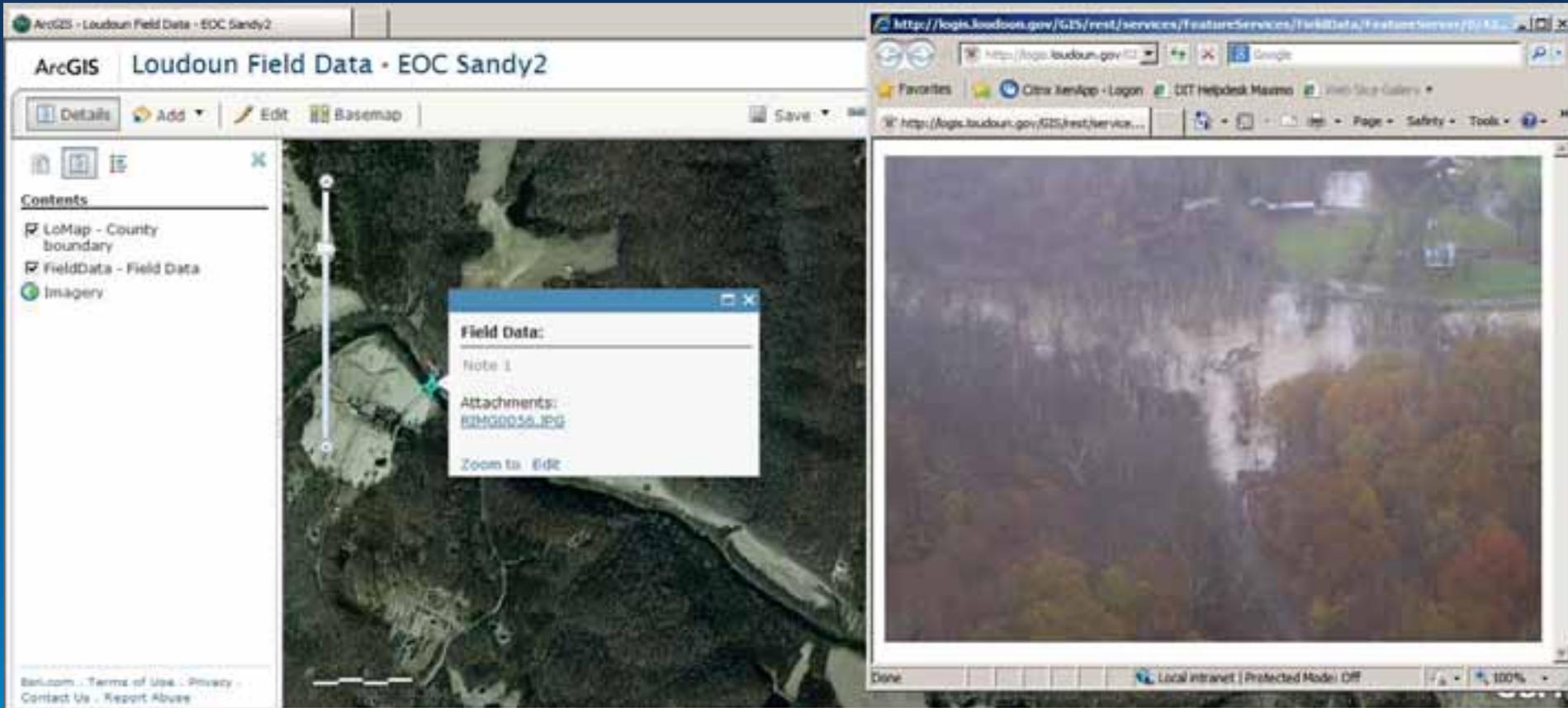
# AOL Monster Help Day 2013

## Roadblocks, Setbacks and Solutions!

- Collectors able to delete other's edits
- Some inaccurate edits recorded location
- Image size and Rotated images
- Unable to download collected images
- Monitoring ArcGIS Online credits

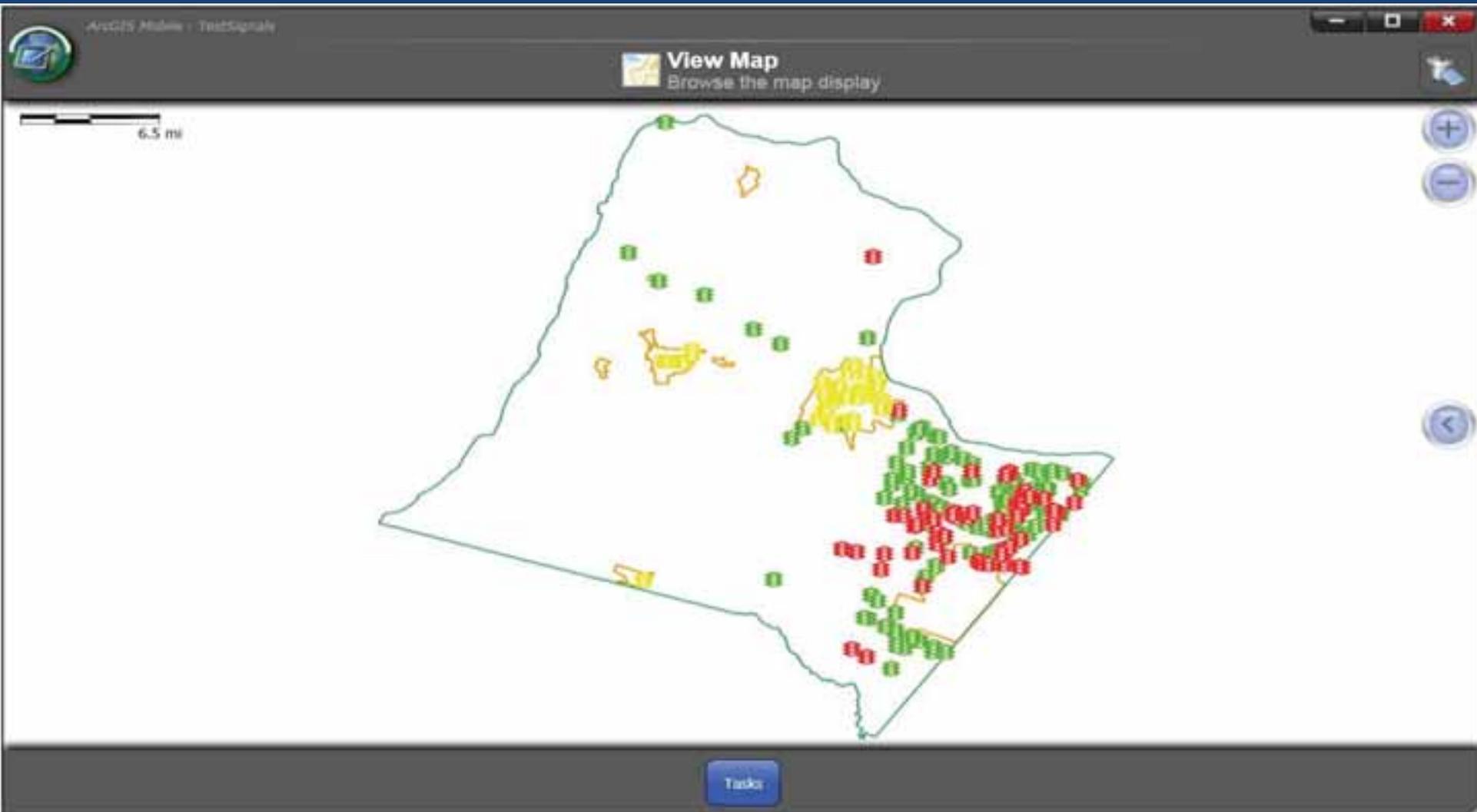
# Other Mobile applications

## ArcGIS for Smartphones and Tablets : Loudoun Field Data



# Other Mobile applications

## ArcGIS for Windows : Traffic Intersection Data Collection



# Other Mobile applications

## Web Browser mobile applications: Sheriff (Find My Station)

REPORT A CRIME   CITIZEN FEEDBACK   VICTIM SERVICES   CAREERS   OFFICE LOCATIONS   SERVICES & PROGRAMS   Search

Home > Office Locations > Find My Station [View Archived](#)

### Find My Station

Enter street address:

530 520 510 15 460 540 310 203 50 240 330 230 220 210 500 450 440 460 370 360 260 250 470 IAD 430 410 420

Sheriff's Administration Building ▶  
Adult Detention Center ▶  
Dulles South Public Safety Center ▶  
Eastern Loudoun Station ▶  
University Station ▶  
Western Loudoun Station (Future Site) ▶

Share Print Mail

# Other Mobile applications

## Web Browser mobile applications: Sheriff (Find My Station)

REPORT A CRIME   CITIZEN FEEDBACK   VICTIM SERVICES   CAREERS   OFFICE LOCATIONS   SERVICES & PROGRAMS   Search

ALERT LOUDOUN 

FIND MY STATION 

CRIME MAPS & STATS 

- Sheriff's Administration Building
- Adult Detention Center
- Dulles South Public Safety Center
- Eastern Loudoun Station
- University Station
- Western Loudoun Station (Future Site)

Home > Office Locations > Find My Station [View Archived](#)

### Find My Station

Enter street address:



**LEESBURG POLICE STATION**  
65 PLAZA ST NE LEESBURG VA  
Phone: 703.771.4500  
[link](#)

**SHERIFF OFFICE ADMINISTRATION**  
880 HARRISON ST SE LEESBURG VA 20175  
Phone: 703.777.0407  
[link](#)

 Share    Print    Mail

# Other Mobile applications

## Web Browser mobile applications: Polling Place lookup

Search 

LOUDOUN ON   

- Polling Place Lookup >
- Algonkian District >
- Ashburn District >
- Blue Ridge District >
- Broad Run District >
- Catoctin District >
- Dulles District >
- Leesburg District >
- Sterling District >

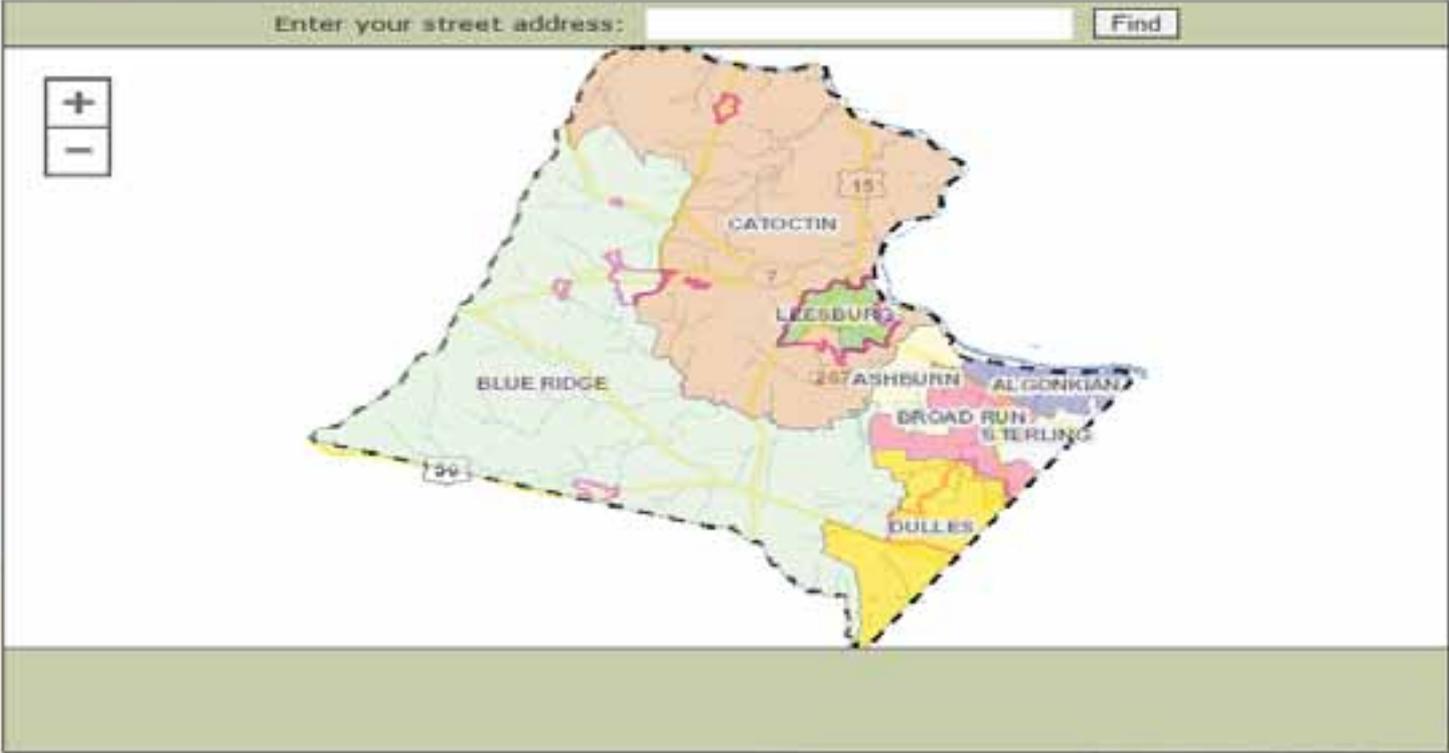
*My Loudoun*  
MY COUNTY - MY WAY

*Notify Me / Alerts*  
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Home > [Government](#) > [County Departments](#) > [Departments H-Z](#) > [Voter Registration & Elections](#) > [Polling Places](#) > Polling Place Lookup

### Polling Place Lookup

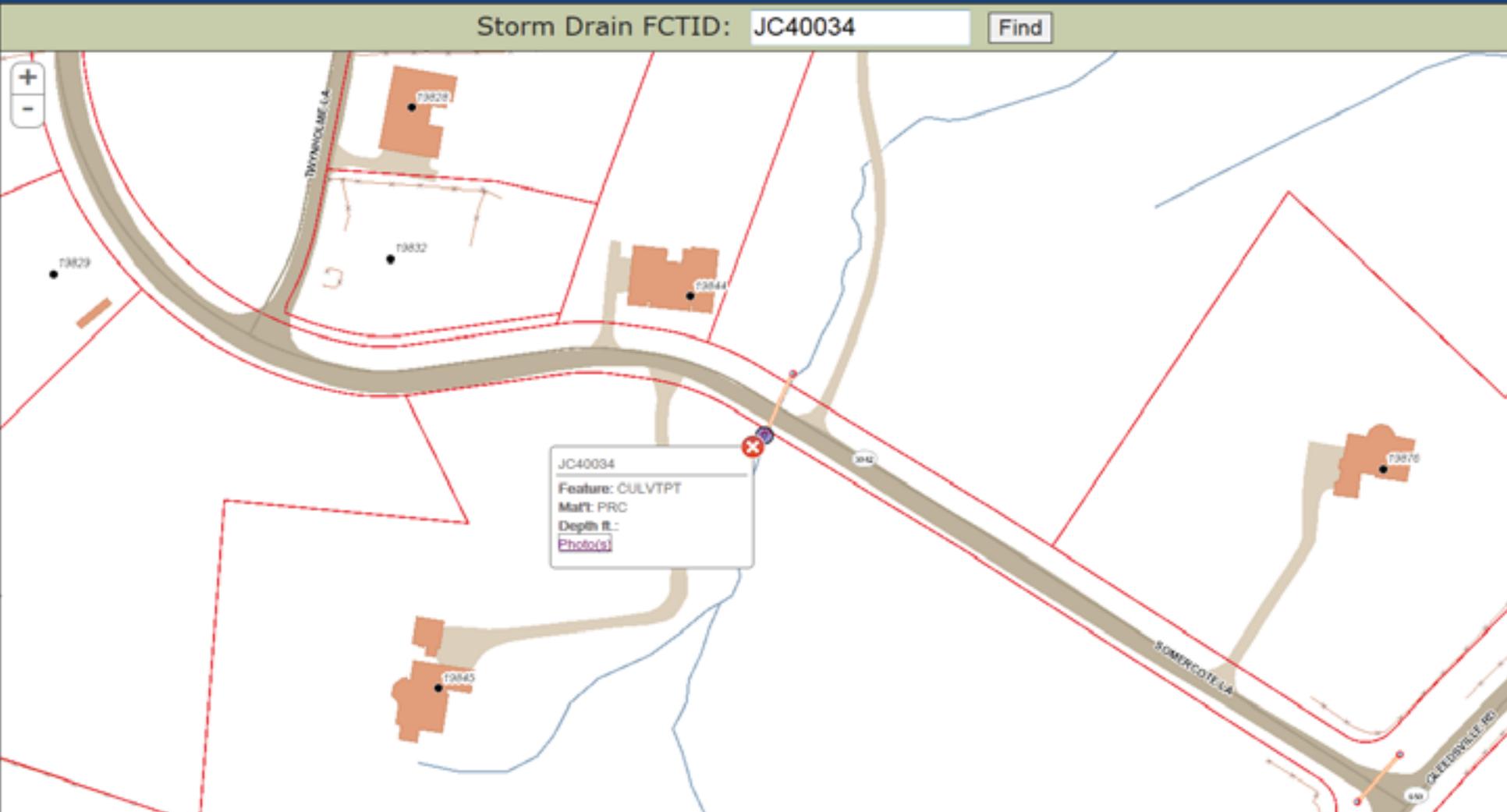
Enter your street address:



The map displays the following districts: BLUE RIDGE (light green), CATOCTIN (orange), LEESBURG (green), EAST ASHBURN (yellow), ALGONKIAN (blue), BROAD RUN / STERLING (pink), and DULLES (yellow). Major roads 15 and 29 are also visible.

# Other Mobile applications

## Web Browser mobile applications: Stormwater Structure Search



# Other Mobile applications

## Web Browser mobile applications: Application & Permit Search



The screenshot displays a mobile web browser application interface. The main area is a map showing a residential development with several parcels highlighted in light blue. A callout box over one parcel displays the PIN 035499160000. The map includes a scale bar (0, 100, 200 feet) and a north arrow. The right-hand side of the screen features a panel titled "Inspectors Tool" with tabs for "Contents", "Search", and "Results". The "Results" tab is active, showing search results for the query "STPW:2006-0017".

**Inspectors Tool**

Contents Search Results

For search on: STPW:2006-0017

Total parcels returned: 2

PIN	Date	Status
03410308000	2006	APPROVD
03549916000	2006	APPROVD

**\*\* Notice:** The map extent may not match the true boundary of the application.

The map is zoomed to the extent of the parcels associated with the Application/Permit in LMS that are currently present in the Parcels feature class.

## Other contributors

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