

City of Red Wing Storm Water Utility Land Use Mapping

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SE MN GIS User Group Meeting
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Presentation Outline

- ▶ Utility Fee Ordinance
- ▶ Project Methodology & Design
- ▶ Data Development
- ▶ Challenge Areas
- ▶ Migration to Springbrook Finance software and Annual Maintenance

Utility Fee Ordinance

- ▶ In 2008, Red Wing City Council and City staff created a Storm Water Utility Task force that identified a need to find a dedicated funding source for storm water management maintenance and capital improvements
- ▶ Contracted with Barr Engineering to create a fair system for paying current and future storm water management needs
- ▶ Two new fees were created:
 - ❖ An area fee charged monthly on land use type and acreage
 - ❖ One time connection fee paid at the time a new building permit is issued

Utility Fee Ordinance Cont.

- ▶ Storm water utility area fee is based on estimation of the volume of runoff for each property. A coefficient is used to estimate runoff from various land use types.
- ▶ As proposed, the fee structure included the following features:
 - ❖ Residential Equivalent Factor (impervious surface runoff compared to average residence) with all residential properties charged a standard \$48 flat fee annually.
 - ❖ A Unit Fee to establish charges for all non-residential parcels with a minimum charge of \$48 annually.
 - ❖ No fees would be charged for city property, public ROWs, parks, open space, undeveloped vacant, tribal land, and non-farmed agriculture land.
 - ❖ Actively farmed agricultural land would be charged at a rate of \$24 per acre as opposed to \$68 per acre per year using the runoff coefficient for non-conservation row cropping.

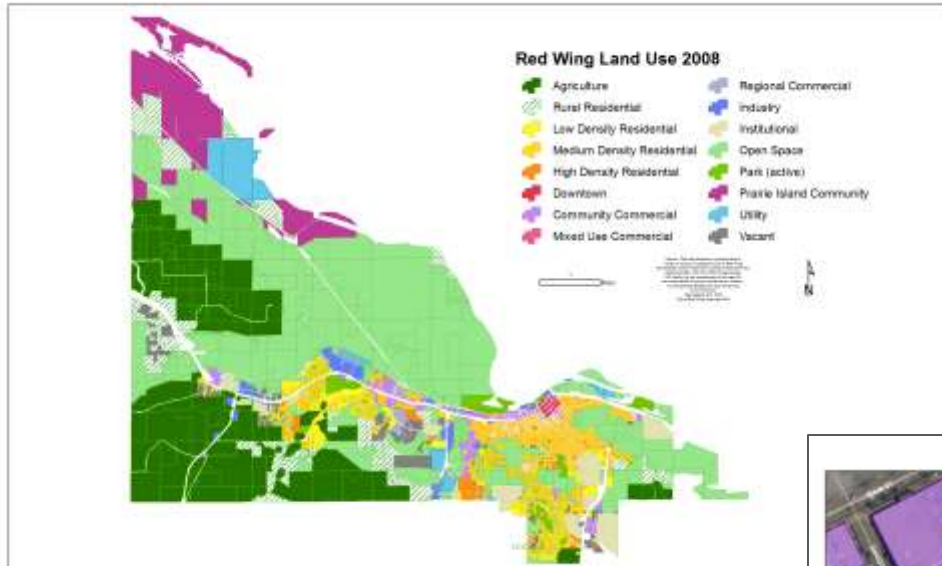
Project Methodology & Design

- ▶ Meetings with Task Force members to establish methodology for land use determination and calculating acreage of use
- ▶ Also needed to translate gap between GIS data compilation and specific data needed to calculate utility fees for individual parcel owners

Project Methodology & Design cont.

- ▶ Red Wing is the first municipality in Minnesota to base it's storm water utility fee system on a finer-grained interpretation of land use type
- ▶ Determination was made to create a spreadsheet with every parcel PIN number, use, and acreage of use

Data Development



Land Use data layer developed for 2007 Comprehensive Plan was parcel-based.

The parcel-based model worked fine for developed areas, but not for periphery areas in accordance with the storm water ordinance.



Data Development cont.



**In agricultural areas,
land use was
determined by majority
use.**

**Under the ordinance, the
fee structure would need
to be calculated by acreage
of actual land use.**



GIS Data Utilized

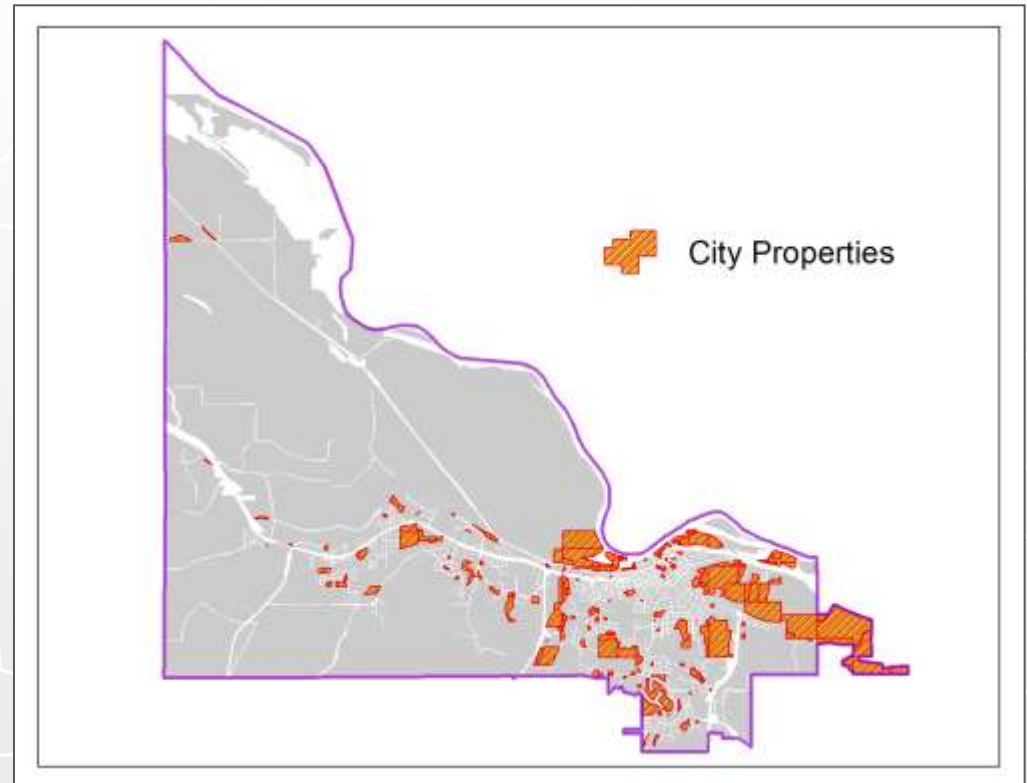
- ▶ Base data layers: parcels, 2007 6" resolution aerial photos
- ▶ Structures (single field address)
- ▶ LiDAR
- ▶ 2008 FSA aerial photos
- ▶ Miscellaneous datasets including City-owned properties, open space, rental properties, and vacant buildable lots

Other Data Sources

- ▶ County AS400 table
- ▶ County Real Estate online tax query
- ▶ County assessor cards
- ▶ Legal descriptions
- ▶ Total GIS staff time for project estimated at 300+ hours

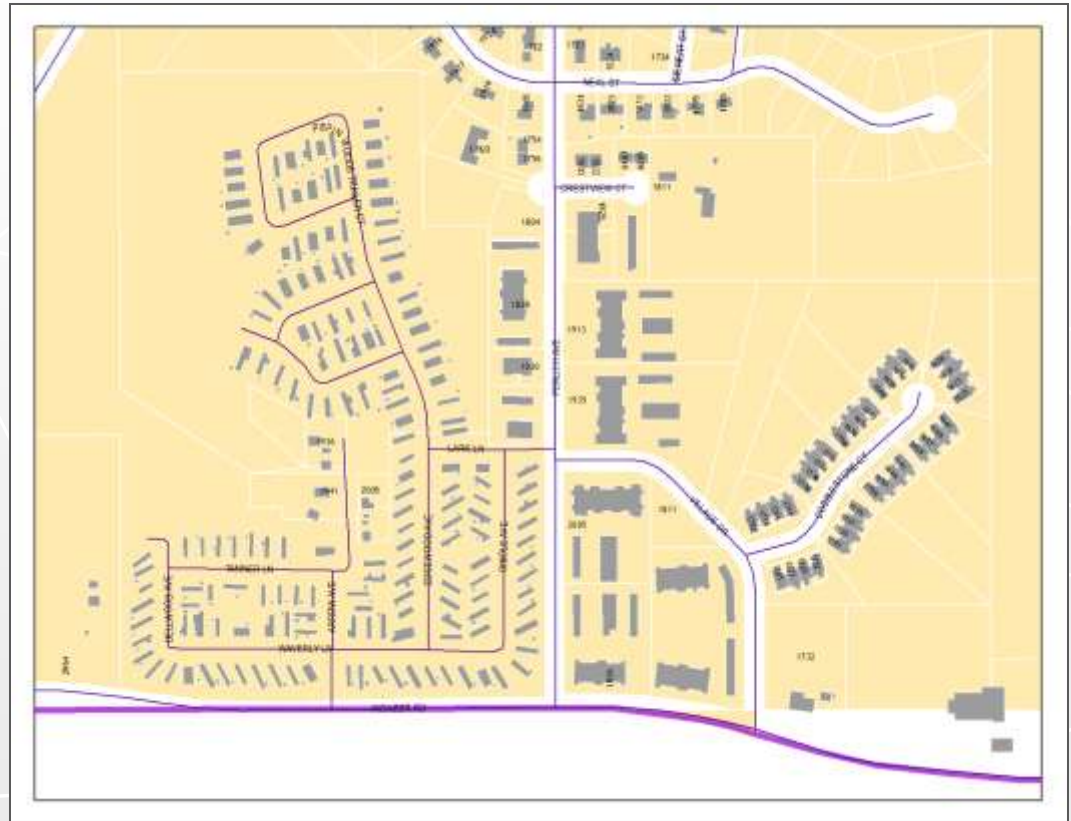
Challenge Areas

- ▶ Incomplete parcel geometry. Initial analysis determined that the City was missing 673 PIN numbers from the GIS database.
- ▶ Of those missing PINs, 223 were ROW parcels no longer actively taxed, while 278 were identified as either condo units or City-owned.
- ▶ Approximately 150 parcels still missing geometry in parcel dataset.



Challenge Areas cont.

- ▶ Address issues: copy and paste from the structures data layer not the most accurate database
- ▶ Address data differed from utility billing system
- ▶ Dealing with multiple conveyance properties (condos/CIC's)



Challenge Areas cont.

- ▶ Land use determination. I am a GIS Specialist with training in photo interpretation, but I am no imagery analyst.
- ▶ Limited staff review.
- ▶ Table built from over 8,000 records.



'Damn it, Jim, I'm a doctor, not an escalator.'

Challenge Areas cont.

- ▶ Need to create exceptions policy table.
- ▶ Examples include townhouse common areas, commercial parking lots, large rural gardens, railroad land, landfill area.



Migration to Springbrook

- ▶ Finance Department staff is preparing to migrate data into Springbrook billing software
- ▶ Expected issues with multiple land uses per PIN number, address discrepancies
- ▶ Need to implement ASAP- City annual expected revenue from utility fee is over \$400,000

Maintenance

- ▶ Responsible for updating land use annually
- ▶ Check new permits pulled from previous year
- ▶ 2010 County aerial photo flight
- ▶ 2012 high resolution aerial photo flight for cities



Questions?

- ▶ Contact City of Red Wing GIS Specialist Leanne Knott at 651.385.3619 or email at Leanne.Knott@ci.red-wing.mn.us

