# Parcel Mapping in Olmsted County

## A brief history of GIS in Olmsted County:

- 1974 – Begin using Land Use Records
- 1980 – Planning Dept. gets a State grant for getting soil and land cover. The work was done by LMIC with PC Arc-Info and EPPL7.
- 1986 – Planning Dept. becomes a beta test site for EPPL7.
- 1987 – Planning Dept. buys Auto-CAD.
- 1988 – Planning Dept. buys PC Arc-Info to update 1987 land cover to 1989.
- 1991 – Planning Dept. buys UNIX based Arc-Info.
- 1992 – GIS Consortium is formed.
- 1996 – GIS Division is formed.
- 2000 – Planning Dept Buys Arc-IMS. Internet Mapping begins.
- 2002 – Updated land cover from 1999 to 2002.
- 2004 – Planning Dept. buys Arc-SDE.

## Staff in the GIS Division:

Additional staff for base mapping was hired in early 1994. That staff Included Ron Hensley, Randy Growden, and myself. Jan Chezick took over supervision of base mapping staff in October 1996 when the GIS Division was formed. Randy Growden moved over to the Addressing Division with Bruce Whetstone. At that time they were responsible for addressing in Olmsted County less the city of Rochester, who did their own addressing. Since Apr. 1, 2000 Bruce and Randy are responsible for ALL the addressing in Olmsted County. Jennifer Rand has been working for both the Addressing and GIS Divisions for 4 years.

# The PLSS Grid and the Datum:

The Public Land Survey System (PLSS) grid in Olmsted County was created in 1992, and the datum was NAD27. The X,Y coordinates for the grid was drafted into Auto-CAD using Geocogo (a coordinate geometry program). This included township lines, section lines, and quarter-section lines.

In 1997 the datum was changed from NAD27 to NAD83. This involved moving the base maps from one point to another and adding a slight rotation because of the differences between the datums.

Later in 1997 the datum was changed to NAD83HARN (High Accuracy Reference Network). This was done based on a study of locations in the real world and their locations in the base maps. The base maps were moved 1' to the south and 0.1' to the west. The County Surveyor is hoping to publish the official HARN points this summer or fall.

# Dover Twp PLSS Grid:

# Intro to Mapping in Auto-CAD

- Dover Township base map
- Layers in the base map
- What Geocogo does
- Load the Geocogo menu

# Case Study: a lot split and a new Subdivision:

- Drafting in a lot split
- Rotate lot split to fit the PLSS Grid
- New subdivision – Henry Estates 6
- Create the Auto-CAD dxf file
- Using AML (Arc Macro Language) to create a plot file to show drafting errors, and to create the updated coverage for Dover Township.

# Command Line Arc-Info

We use AML to automate the more repetitive tasks in Arc-Info. We create parcel coverages, roadway centerline coverages, and city limit coverages at the end of each month for the users of the data. The process to create an AML file is easy. Just give the &watch “filename” at the command line, and all the commands and responses from Arc-Info are captured in the file until the &watch &off command is issued. This is called a “watch” file. To convert it into an AML file, issue the Convert Watch to AML. &cwta “watchfile” “AMLfile”. Open the AML file in notepad and you will see all the commands you issued in the Arc-Info session.

# The 2 Month End AML's

## EOM.AML

- Brings in line work for parcels from the Auto-CAD dxf file.
- Display the line work on the screen.
- Show the drafting errors and label errors.

## PATMAINT.AML

- Joins xcode file to pat file giving us the PIN (Parcel Identification Number) we need.
- Gets a file of condominium numbers off the server and converts it to a data file.
- Drops out unneeded items from the pat file.
- Dissolves polygons based on the pin number (for parcels crossing roads, etc).
- Sets the Olmsted County projection parameters.

# What AML Looks Like: the EOM.AML

```
/* Program brings in a dxf and runs through arcplot to display
coverage
/* eom.aml
&setvar coveru = [response 'dxf file name no ext']
&setvar coverc = [response 'Enter Clean Coverage Name']
&setvar path = D:/data/dxfs/
dxfarc %path%%coveru%.dxf %coverc%
subd all
strw all
lotpl all
pvtstrw all
rlotpl all
rrrw all
pin all
end
y
&type 'cleaning coverage'
clean %coverc% %coverc% # .15 poly
describe %coverc%
ap
&type 'here we go!!!'
display 9999 1
mape %coverc%
pagesize 48 36
map [response 'plot file name']
&type 'setting arc plot parameters'
maplimits .5 .5 47 35
mapunits feet
mapscale automatic
mapposition cen cen
linecolor 14
linesize 0
polys %coverc%
markercolor 2
markersize .04
labels %coverc% noids
markersize .2
markercolor 3
nodeerrors %coverc% dangle
markercolor 5
labelerrors %coverc% arcs
```