

Conversion to ArcGIS Pro from AutoCAD

Steven M. Hanson

City of Detroit Lakes

Utility Services Coordinator

Detroit Lakes Public Utilities

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AutoCAD conversion to ArcGIS Pro (almost)

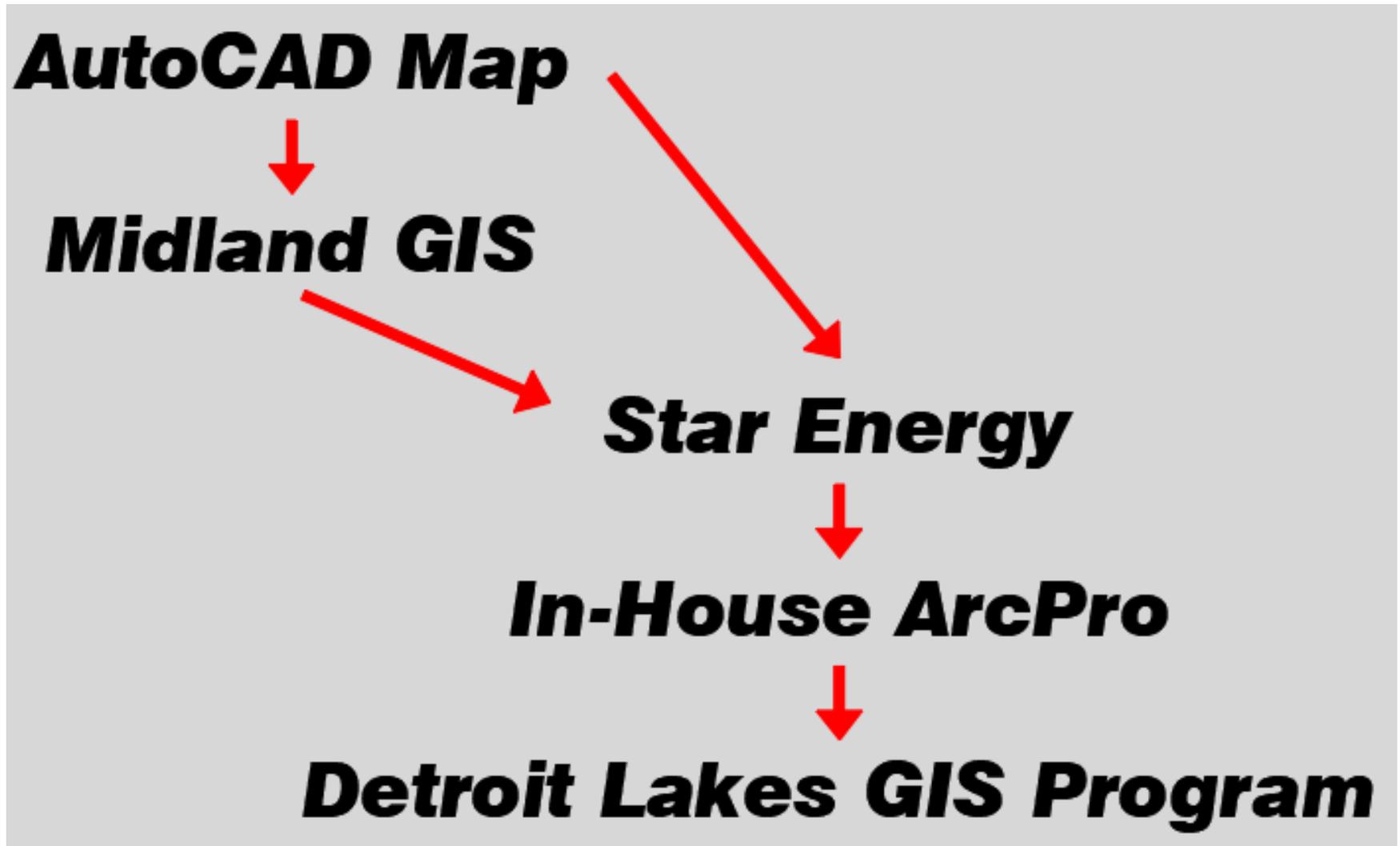
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S...	Name
0	0 Temporary
0	0-WORKING
1	1 My House stuff
1	1 My Houses
10_12	10_12_Watermains
17.178.0035	- Design\$0\$C-ESMT-TEMP
BNDRY-2 and 3 MILE	
BNDRY-AERIAL - 2013	
BNDRY-AERIAL-1939	
BNDRY-AERIAL-1953	
BNDRY-AERIAL-1965	
BNDRY-AERIAL-1981	
BNDRY-AERIAL-2005	
BNDRY-AERIAL-AREA	
BNDRY-AERIALS 2005 SHEETS	
BNDRY-AERIALS 2013 SHEETS	
BNDRY-AERIALS 2017 SHEETS	
BNDRY-ANNEX-FUTURE	
BNDRY-CITY PROPERTY	
BNDRY-CORP LIMITS-VILLAGE OF DETROIT	
BNDRY-CORPLIMITS-1940	
BNDRY-CORPLIMITS-1940s	
BNDRY-CORPLIMITS-1950	
BNDRY-CORPLIMITS-1950s	
BNDRY-CORPLIMITS-1960	
BNDRY-CORPLIMITS-1960s	
BNDRY-CORPLIMITS-1970	
BNDRY-CORPLIMITS-1970s	
BNDRY-CORPLIMITS-1980	
BNDRY-CORPLIMITS-1980s	
BNDRY-CORPLIMITS-1990	
BNDRY-CORPLIMITS-1990's	
BNDRY-CORPLIMITS-2000	
BNDRY-CORPLIMITS-2000's	
BNDRY-CORPLIMITS-2010	
BNDRY-CORPLIMITS-2010's	
BNDRY-CORPLIMITS-FILL	
BNDRY-CORPLIMITS1988Roads	
BNDRY-CORPORATE-LIMIT	
BNDRY-CORPORATE-LIMIT PROPOSED	
BNDRY-CORPORATE-LONG LAKE	
BNDRY-CORPORATE-SHADE	
BNDRY-CORPORATE-TEXT	
BNDRY-COUNTY TWP LINE	
BNDRY-GOVTLOTS	
BNDRY-GPS-Points	
BNDRY-SECTION-CORNERS	

S...	Name
BNDRY-SECTION-CORNERS	
BNDRY-SECTION-CORRECTION	
BNDRY-SECTION-COUNTY	
BNDRY-SECTION-LINES	
BNDRY-SECTION-QUARTER	
BNDRY-SECTION-STATE	
BNDRY-SURVEY LINES	
BNDRY-TOWNSHIP-RANGE	
BNDRY-US National Grid	
BNDY-USA LAT LON	
DefPoints	
ELEVATIONS-CONTOURS	
ELEVATIONS-contours2	
ELEVATIONS-TEXT	
HYDRO-LAKES	
HYDRO-LAKES-CONTOUR	
HYDRO-LAKES-LINE	
HYDRO-LAKES-NAMES	
HYDRO-RIVERS	
HYDRO-SWAMP	
HYDRO-SWAMP-SYMBOLS	
MISC-AIRPORT RIDES	
MISC-Airport Road Routes	
MISC-Boosters	
MISC-CITY GRID	
MISC-CITY GRID-OLD	
MISC-COLOR WHEEL	
MISC-DAN AND SARAH	
MISC-DAY OF CARING	
MISC-Detroit Mt	
MISC-Detroit Mt Elec	
MISC-Detroit Mt Lifts	
MISC-Detroit Mt Properties	
MISC-Detroit Mt Topo	
MISC-Detroit Mt Water	
MISC-Electric Inspector Territory	
MISC-FIRE HALL 4 MILE	
MISC-FUTURE ROADS	
MISC-GOLF COURSE	
MISC-K9 TRIALS	
MISC-LAKE BUOYS	
MISC-LOTS C and R	
MISC-PELICAN RIVER TRAIL	
MISC-POINTS OF INTEREST	
MISC-RACE-BIKE RIDES	
MISC-RACE-BIKE RIDES-13 Mile	
MISC-RACE-BIKE RIDES-42 Mile	
MISC-RACE-BIKE RIDES-NAMES	

S...	Name
MISC-RACE-PARADE ROUTE	
MISC-RACE-RUN Half Marathon	
MISC-RACE-RUN Shorewood	
MISC-School Land Uses	
MISC-School Possibilities	
MISC-School RooseveltMiddle 1	
MISC-School RooseveltMiddle 2	
MISC-School Vote	
MISC-TELEPHONE BOOK	
MISC-TELEPHONE BOOK-PARKS	
MISC-TOUR DL	
MISC-TOUR DL 2	
MISC-TOUR-SPOUSES	
MISC-WALKING ROUTES	
MISC-WALKING ROUTES 2	
MISC-WE FEST	
MISC-WE FEST SHUTTLE	
MNHVY-LOTS	
PLANNING-A PROPOSALS	
PLANNING-ANNEXATIONS	
PLANNING-BILLBOARD	
PLANNING-BILLBOARD 300	
PLANNING-BILLBOARD1000	
PLANNING-Capital Improvement Plan 2014	
PLANNING-Capital Improvement Plan 2015	
PLANNING-Capital Improvement Plan 2016	
PLANNING-Capital Improvement Plan 2017	
PLANNING-Capital Improvement Plan 2018	
PLANNING-Capital Improvement Plan 2019	
PLANNING-Cores Areas	
PLANNING-Cores Areas Outside	
PLANNING-Districts 1	
PLANNING-Districts 2	
PLANNING-Districts 3	
PLANNING-Districts 4	
PLANNING-Districts 5	
PLANNING-Districts 6	
PLANNING-Districts 7	
PLANNING-Districts 8	
PLANNING-Districts All	
PLANNING-Districts Boundaries	
PLANNING-DISTRICTS-IMPROVEMENT	
PLANNING-DISTRICTS-PARKING LOT	
PLANNING-LARRY	
PLANNING-LIQUOR STORE	
PLANNING-North ID Park Lots	
PLANNING-Recovery Zones	
PLANNING-REDEVELOPMENT AREAS	

S...	Name
PLANNING-REDEVELOPMENT DIST	
PLANNING-WLD	
PLANNING-WLD 2	
PLAT-BLOCK	
PLAT-EASEMENT-TEMP	
PLAT-EASEMENTS	
PLAT-LOT	
PLAT-LOT-DIMENSION	
PLAT-LOT-NUMBER	
PLAT-MILLION DOLLAR HOMES	
PLAT-NAME	
PLAT-PARCEL	
PLAT-PARCEL FILL	
PLAT-PARCEL-CITY Drive Points	
PLAT-PARCEL-COUNTY Drive Points	
PLAT-PARCEL-DIMENSIONS	
PLAT-PARCEL-HOUSE No.	
PLAT-PARCEL-NUMBERS-FULL	
PLAT-PARCEL-NUMBERS-SHORT	
PLAT-PARCEL-SETBACKS	
PLAT-PARCEL-Address	
PLAT-PARCELS-CITY	
PLAT-PARCELS-City and County	
PLAT-PARCELS-COUNTY	
PLAT-PARCELS-COUNTY-ANNEXED	
PLAT-PARCELS-VACANT	
PLAT-Plat Boundaries	
PLAT-Plat Boundary Names	
PLAT-PLATS	
PLAT-PROPOSED-APEX TOWNHOUSES	
PLAT-PROPOSED_FUTURE	
PLAT-RENTALS	
PLAT-RESIDENTIAL UNITS	
PLAT-STORM WATER DELINEATED	
PLATS-MISC-LOTS 15 - 25	
PRE-BORDER	
PRE-BUTTON	
PRE-ELEC-100-NUMBERS	
PRE-ELEC-100-SHEET	
PRE-ELEC-100-Sht Nos	
PRE-ELEC-100x76 500	
PRE-ELEC-100x76 600	
PRE-ELEC-200 NUMBERS	
PRE-ELEC-200 SHEET	
PRE-ELEC-200 Sht Nos	
PRE-ELEC-200-OFFSET	
PRE-ELEC-300 42x36	
PRE-ELEC-400 NUMBERS	
PRE-ELEC-400 SHEET	

S...	Name
PUBLIC WORKS-Bike Paths City	
PUBLIC WORKS-Bike Paths County	
PUBLIC WORKS-Bike Paths Heartland Trails	
PUBLIC WORKS-Bike Paths Undeveloped	
PUBLIC WORKS-Bike Paths Zones	
PUBLIC WORKS-Bike Words	
PUBLIC WORKS-GRAVEL	
PUBLIC WORKS-GRAVEL-DUST	
PUBLIC WORKS-MOWING-HWY	
PUBLIC WORKS-MOWING-PARKS	
PUBLIC WORKS-MOWING-STREETS	
PUBLIC WORKS-PARKS	
PUBLIC WORKS-PARKS-Schools	
PUBLIC WORKS-PARKS-SECTIONS	
PUBLIC WORKS-PARKS-Totes	
PUBLIC WORKS-PARKS-TRAILS	
PUBLIC WORKS-SIDEWALKS	
PUBLIC WORKS-SNOW-CONTROL	
PUBLIC WORKS-SNOWING-CORNERS	
PUBLIC WORKS-SNOW-REMOVAL	
PUBLIC WORKS-SNOW-REMOVAL BRENNON GRADER	
PUBLIC WORKS-SNOW-REMOVAL BRYAN GRADER	
PUBLIC WORKS-SNOW-REMOVAL DAN TRUCK	
PUBLIC WORKS-SNOW-REMOVAL JAKE LOADER	
PUBLIC WORKS-SNOW-REMOVAL JED TRUCK	
PUBLIC WORKS-SNOW-REMOVAL JEFF TRUCK	
PUBLIC WORKS-SNOW-REMOVAL KEVIN GRADER	
PUBLIC WORKS-SNOW-REMOVAL LEE TRUCK	
PUBLIC WORKS-SNOW-REMOVAL RANDY TRUCK	
PUBLIC WORKS-SNOW-REMOVAL SCOTT TRUCK	
PUBLIC WORKS-SNOW-REMOVAL TERRY TRUCK	
PUBLIC WORKS-SNOW-REMOVAL TOM WALK_BIKE TRAILS	
PUBLIC WORKS-SNOW-REMOVAL TRAVIS BOBCATS SIDEWALKS	
PUBLIC WORKS-SNOW-SCHEDULE	
PUBLIC WORKS-Street Signs	
PUBLIC WORKS-STREETS-5 TON	
PUBLIC WORKS-STREETS-7 TON	
PUBLIC WORKS-STREETS-9 TON	
PUBLIC WORKS-STREETS-10 TON	
PUBLIC WORKS-STREETS-BRAD	
ROW-COUNTY	
ROW-HIGHWAY	
ROW-HIGHWAY-CENTERLINE	
ROW-HIGHWAY-RADIUS	
ROW-HIGHWAY-SIGNS	
ROW-HIGHWAY-STRIPING	
ROW-MNHVY-STREET	
ROW-PARKING LOTS	

S...	Name
ROW-RAILROAD	
ROW-RAILROAD-CENTERLINE	
ROW-RAILROAD-TRACKS	
ROW-SIDEWALK	
ROW-SIDEWALK-DRIVEWAYS	
ROW-STREET-PROJECTS	
ROW-STREETS	
ROW-STREETS-AERIAL	
ROW-STREETS-CENTERLINE	
ROW-STREETS-CURB & GUTTER	
ROW-STREETS-Curb & Gutter WIDTHS	
ROW-STREETS-NAME	
ROW-STREETS-NAME-HUGE	
ROW-STREETS-NAME-LARGE	
ROW-STREETS-NAME-LARGE BOLD	
ROW-STREETS-NAME-LIGHT	
ROW-STREETS-NAME-MASSIVE	
ROW-STREETS-NAME-OFFSET	
ROW-STREETS-PARKING-WLD	
ROW-STREETS-PRIORITY	
ROW-STREETS-PRIVATE	
ROW-STREETS-VACATIONS	
ROW-STREETS-WIDTH	
ROW-TEMPORARY-Roads	
STRUC-BUILDING	
STRUC-BUILDING-PARKING LOTS	
STRUC-BUILDING-TEXT	
STRUC-CHURCHES	
STRUC-HOUSES	
TRANS-AIRPORT	
TRANS-AIRPORT-FUELING AREAS	
TRANS-AIRPORT-MOVED	
TRANS-AIRPORT-ZONE	
UTIL-ELEC-BNDRY-CITY	
UTIL-ELEC-BNDRY-COMPANY	
UTIL-ELEC-BNDRY-EUSA	
UTIL-ELEC-BNDRY-OVERLAP	
UTIL-ELEC-BNDRY-SHADE	
UTIL-ELEC-BNDRY-TRANSFERRED	
UTIL-ELEC-BNDRY-TRANSFERRED TO BE	
UTIL-ELEC-Contoller Locations FDR 0-8	
UTIL-ELEC-FEEDER-CITY	
UTIL-ELEC-FEEDER-CITY-No.	
UTIL-ELEC-FEEDER-HATCH	
UTIL-ELEC-FEEDER-HATCH-No.	
UTIL-ELEC-FEEDER-SUBSTATION	
UTIL-ELEC-FUZE-COMP	
UTIL-ELEC-FUZE-TEXT	

S...	Name
UTIL-ELEC-LB LARGE-COMP	
UTIL-ELEC-LB LARGE-TEXT	
UTIL-ELEC-LB-CAPACITOR	
UTIL-ELEC-LB-COMP	
UTIL-ELEC-LB-TEXT	
UTIL-ELEC-LIGHT-STOP	
UTIL-ELEC-LIGHT-STREET	
UTIL-ELEC-LIGHT-STREET-SIZE 48 LED	
UTIL-ELEC-LIGHT-STREET-SIZE 60 LED	
UTIL-ELEC-LIGHT-STREET-SIZE 80LED	
UTIL-ELEC-LIGHT-STREET-SIZE 100HPS	
UTIL-ELEC-LIGHT-STREET-SIZE 110LED	
UTIL-ELEC-LIGHT-STREET-SIZE 213 LED	
UTIL-ELEC-LIGHT-STREET-SIZE 250HPS	
UTIL-ELEC-LIGHT-STREET-SIZE 400HPS	
UTIL-ELEC-LIGHT-YARD	
UTIL-ELEC-LIGHT-YARD-LOCATION	
UTIL-ELEC-LIGHT-YARD-TEXT	
UTIL-ELEC-LIGHTING-PATTERNS	
UTIL-ELEC-LINE-1 LINE	
UTIL-ELEC-LINE-ABANDONED	
UTIL-ELEC-LINE-CONDUIT	
UTIL-ELEC-LINE-FEEDER	
UTIL-ELEC-LINE-GroundShots	
UTIL-ELEC-LINE-PRIMARY-COMP	
UTIL-ELEC-LINE-PRIMARY-OVERHEAD	
UTIL-ELEC-LINE-PRIMARY-UNDRGRND	
UTIL-ELEC-LINE-PRIMARY-UNDRGRND XP	
UTIL-ELEC-LINE-PROPOSED	
UTIL-ELEC-LINE-SECOND-COMP	
UTIL-ELEC-LINE-SECOND-OVERHEAD	
UTIL-ELEC-LINE-SECOND-UNDERGRND	
UTIL-ELEC-LINE-SECOND-VOLT 120	
UTIL-ELEC-LINE-TEXT	
UTIL-ELEC-MANHOLES	
UTIL-ELEC-METER FILLS	
UTIL-ELEC-METER ROUTES	
UTIL-ELEC-NAMES-LAKE	
UTIL-ELEC-NAMES-PLATS	
UTIL-ELEC-POLE-GUIDE WIRES	
UTIL-ELEC-POLE-OWNER	
UTIL-ELEC-POLE-POWER	
UTIL-ELEC-POLE-SHEETS	
UTIL-ELEC-POLE-WILDRICE	
UTIL-ELEC-Power Pole GPS	
UTIL-ELEC-Questions	
UTIL-ELEC-SERVICE A METERS	
UTIL-ELEC-FUZE-SERVICE LINES	



S...	Name
✓	UTIL-ELEC-SERVICE METERS
✓	UTIL-ELEC-SOLAR PANELS
✓	UTIL-ELEC-SUBSTATION
✓	UTIL-ELEC-SUBSTATION LAYOUT
✓	UTIL-ELEC-TORNADO
✓	UTIL-ELEC-TORNADO Town
✓	UTIL-ELEC-TRANS-NUMBER
✓	UTIL-ELEC-TRANS-OVERHEAD
✓	UTIL-ELEC-TRANS-TEXT
✓	UTIL-ELEC-TRANS-UNDERGROUND
✓	UTIL-ELEC-TREE TRIMMING 2012
✓	UTIL-ELEC-TREE TRIMMING 2013
✓	UTIL-ELEC-TREE TRIMMING 2014
✓	UTIL-ELEC-TREE TRIMMING 2015
✓	UTIL-ELEC-TREE TRIMMING 2016
✓	UTIL-ELEC-Volt Plug in
✓	UTIL-ELEC-WREATH
✓	UTIL-OTHER ELECTRIC
✓	UTIL-OTHER GAS
✓	UTIL-OTHER GAS CITY
✓	UTIL-SEWER-A Fixtures GPS
✓	UTIL-SEWER-A FORCEMAIN
✓	UTIL-SEWER-A Forcemain GPS
✓	UTIL-SEWER-A LATERAL
✓	UTIL-SEWER-A Lateral Cleanout
✓	UTIL-SEWER-A Lateral Cleanout GPS
✓	UTIL-SEWER-A LIFTSTATION
✓	UTIL-SEWER-A LiftStation GPS
✓	UTIL-SEWER-A LINE-GPS Point
✓	UTIL-SEWER-A LINE-PVC
✓	UTIL-SEWER-A LINE-VCP
✓	UTIL-SEWER-A MANHOLE
✓	UTIL-SEWER-A Manhole APEX GPS
✓	UTIL-SEWER-A Manhole GPS
✓	UTIL-SEWER-CASING_COUPLING
✓	UTIL-SEWER-FLOW
✓	UTIL-SEWER-FORCEMAIN
✓	UTIL-SEWER-FORCEMAIN-ABANDONED
✓	UTIL-SEWER-FORCEMAIN-SIZE
✓	UTIL-SEWER-INSULATION
✓	UTIL-SEWER-LAGOONS
✓	UTIL-SEWER-LIFTSTATION
✓	UTIL-SEWER-LIFTSTATION-No.
✓	UTIL-SEWER-LIFTSTATION-No. BIG
✓	UTIL-SEWER-LINE-ABANDONED
✓	UTIL-SEWER-LINE-CIP
✓	UTIL-SEWER-LINE-LENGTH
✓	UTIL-SEWER-LINE-RCP

S...	Name
✓	UTIL-SEWER-LINE-SIZE
✓	UTIL-SEWER-LONG LAKE PROJECT YEAR
✓	UTIL-SEWER-MANHOLE
✓	UTIL-SEWER-MESSAGES
✓	UTIL-SEWER-MH No.
✓	UTIL-SEWER-MH-FIX
✓	UTIL-SEWER-PROPOSED
✓	UTIL-SEWER-WASTEWATER PLANT
✓	UTIL-SEWER-WASTEWATER PROPERTY
✓	UTIL-SEWER-ZONES
✓	UTIL-SEWER-ZONES CLEANED 1
✓	UTIL-SEWER-ZONES CLEANED 2
✓	UTIL-SEWER-ZONES CLEANED 3
✓	UTIL-SEWER-ZONES CLEANED 4
✓	UTIL-SEWER-ZONES CLEANED Gravity
✓	UTIL-STORM-AIPORT TESTING
✓	UTIL-STORM-AIRPORT
✓	UTIL-STORM-ALL
✓	UTIL-STORM-BLDG LEADS
✓	UTIL-STORM-CATCHBASINS
✓	UTIL-STORM-CBLEADS
✓	UTIL-STORM-CULVERTS
✓	UTIL-STORM-DETPONDS
✓	UTIL-STORM-DETPONDS No
✓	UTIL-STORM-DETPONDS-PRIVATE
✓	UTIL-STORM-DETSTRUCT
✓	UTIL-STORM-DRAINAGE AREAS
✓	UTIL-STORM-FLOWS
✓	UTIL-STORM-FORCEMAIN
✓	UTIL-STORM-GPS Points
✓	UTIL-STORM-LENGTH_SIZE_TYPE
✓	UTIL-STORM-LIFTSTATION
✓	UTIL-STORM-MAINS
✓	UTIL-STORM-MANHOLE
✓	UTIL-STORM-MH-NUMBERS
✓	UTIL-STORM-NOTES
✓	UTIL-STORM-OUTLETS
✓	UTIL-STORM-PROPOSED
✓	UTIL-STORM-TO_SCALE
✓	UTIL-TELECOM-150' COVERAGE
✓	UTIL-TELECOM-ARVIG
✓	UTIL-TELECOM-LINE-COPPER
✓	UTIL-TELECOM-LINE-COPPER-TEXT
✓	UTIL-TELECOM-LINE-FIBER-MM
✓	UTIL-TELECOM-LINE-FIBER-MM-TEXT
✓	UTIL-TELECOM-LINE-FIBER-SM
✓	UTIL-TELECOM-LINE-FIBER-SM-TEXT
✓	UTIL-TELECOM-MANHOLE

S...	Name
✓	UTIL-TELECOM-MANHOLE TEXT
✓	UTIL-TELECOM-PED
✓	UTIL-TELECOM-PED TEXT
✓	UTIL-TELECOM-PROPOSED
✓	UTIL-TELECOM-TV-CABLE-FIBER
✓	UTIL-WATER-1917 Changes
✓	UTIL-WATER-A CURBSTOP
✓	UTIL-WATER-A Curbstop FIX
✓	UTIL-WATER-A Curbstops GPS
✓	UTIL-WATER-A FIXTURES
✓	UTIL-WATER-A Fixtures GPS
✓	UTIL-WATER-A Gatevalve GPS
✓	UTIL-WATER-A GATEVALVES
✓	UTIL-WATER-A HYDRANT
✓	UTIL-WATER-A Hydrant GPS
✓	UTIL-WATER-A Hydrant LEAD
✓	UTIL-WATER-A LINE-CIP
✓	UTIL-WATER-A LINE-PVC
✓	UTIL-WATER-A METERS
✓	UTIL-WATER-A Service GV GPS
✓	UTIL-WATER-A SERVICES
✓	UTIL-WATER-A TEE
✓	UTIL-WATER-AA FIX
✓	UTIL-WATER-ANCHOR
✓	UTIL-WATER-CASINGS
✓	UTIL-WATER-CB Missing
✓	UTIL-WATER-COUPLING
✓	UTIL-WATER-FIRE COVERAGE
✓	UTIL-WATER-FROZE 2014
✓	UTIL-WATER-GATEVALVE
✓	UTIL-WATER-GV and TEE
✓	UTIL-WATER-HYD 4
✓	UTIL-WATER-HYD 6
✓	UTIL-WATER-HYD-DRAINED
✓	UTIL-WATER-HYD-FLOWS
✓	UTIL-WATER-HYD-LOCATION
✓	UTIL-WATER-HYDRANT 90 degrees to Main
✓	UTIL-WATER-HYDRANT No.
✓	UTIL-WATER-LINE-ABANDONED
✓	UTIL-WATER-LINE-ELEVATIONS
✓	UTIL-WATER-LINE-SIZE
✓	UTIL-WATER-MAPS-1917
✓	UTIL-WATER-MAPS-AGE
✓	UTIL-WATER-MAPS-SIZE
✓	UTIL-WATER-MAPS-TYPE
✓	UTIL-WATER-MH
✓	UTIL-WATER-PLUGS
✓	UTIL-WATER-PROPOSED

S...	Name
✓	UTIL-WATER-HYD-FLOWS
✓	UTIL-WATER-HYD-LOCATION
✓	UTIL-WATER-HYDRANT 90 degrees to Main
✓	UTIL-WATER-HYDRANT No.
✓	UTIL-WATER-LINE-ABANDONED
✓	UTIL-WATER-LINE-ELEVATIONS
✓	UTIL-WATER-LINE-SIZE
✓	UTIL-WATER-MAPS-1917
✓	UTIL-WATER-MAPS-AGE
✓	UTIL-WATER-MAPS-SIZE
✓	UTIL-WATER-MAPS-TYPE
✓	UTIL-WATER-MH
✓	UTIL-WATER-PLUGS
✓	UTIL-WATER-PROPOSED
✓	UTIL-WATER-REDUCER
✓	UTIL-WATER-SERVICES
✓	UTIL-WATER-SERVICES-ABANDONED
✓	UTIL-WATER-SEWER LONG LAKE DATES
✓	UTIL-WATER-SEWER SPLITS
✓	UTIL-WATER-TEES
✓	UTIL-WATER-Transmission Mains
✓	UTIL-WATER-WELLHEAD-AREA
✓	UTIL-WATER-WELLHEAD-CONTAMINANT
✓	UTIL-WATER-WELLHEAD-DWSMA
✓	UTIL-WATER-WELLHEAD-ERA
✓	UTIL-WATER-WELLHEAD-WHPA
✓	UTIL-WATER-WELLS-ASSUMED WELLS
✓	UTIL-WATER-WELLS-DEEP WELLS
✓	UTIL-WATER-WELLS-LOCATED
✓	UTIL-WATER-WELLS-MN HEALTH
✓	UTIL-WATER-WELLS-SEALED
✓	UTIL-WATER-YEAR INSTALLED
✓	VOTE-WARD 1
✓	VOTE-WARD 1 BOUNDARY
✓	VOTE-WARD 2
✓	VOTE-WARD 2 BOUNDARY
✓	VOTE-WARD 3
✓	VOTE-WARD 3 BOUNDARY
✓	VOTE-WARD-BOUNDARIES
✓	VOTE-WARD-SCHOOL VOTE
✓	ZONING-BOUNDARIES
✓	ZONING-COLORED FILL
✓	ZONING-LUCA-OPPORTUNITY ZONE
✓	ZONING-PUD
✓	ZONING-R3
✓	ZONING-TEXT
✓	ZONING-WATER LIMITS
✓	ZONING-WATERLINES

All: 562 layers displayed of 562 total layers



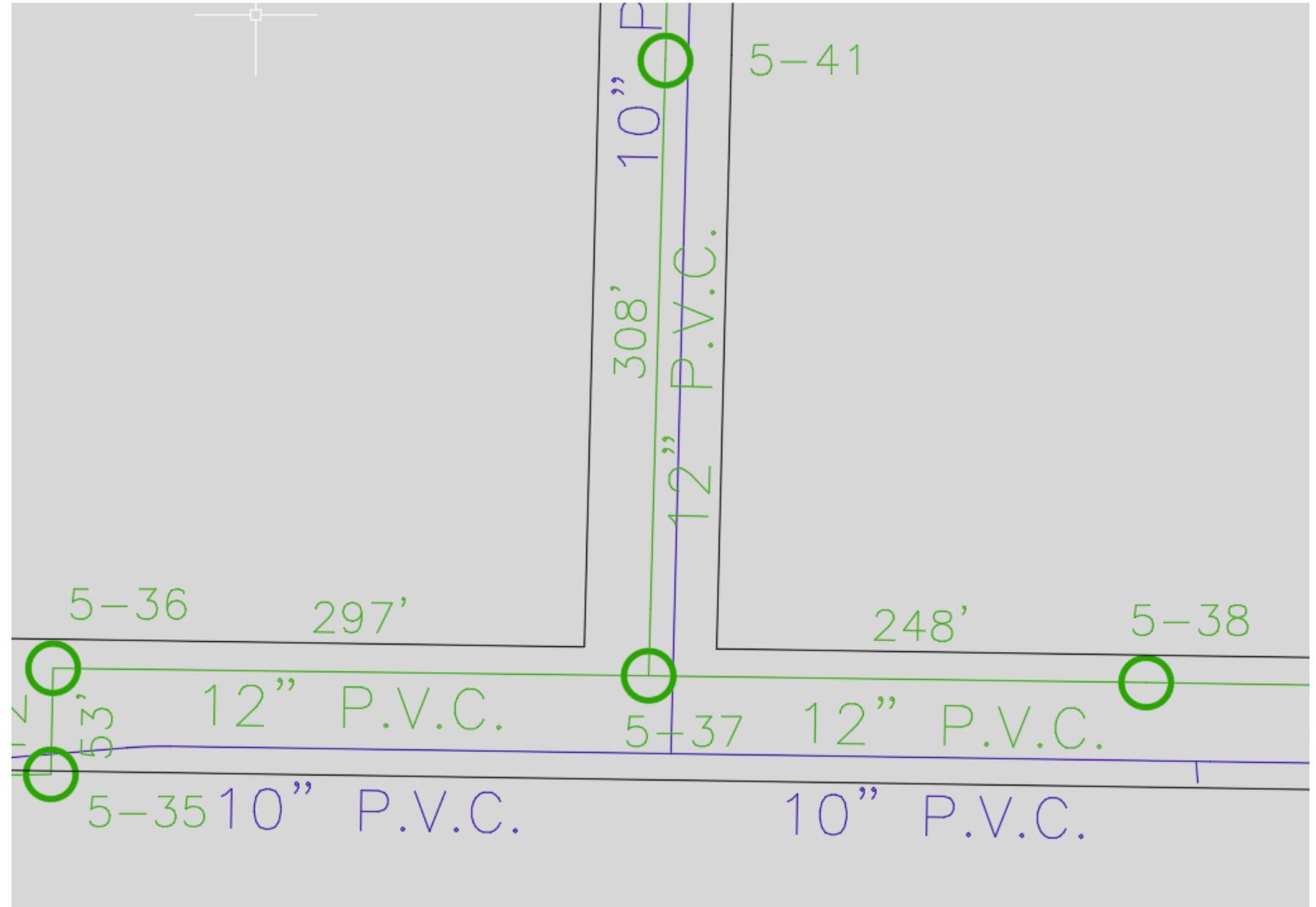
Public Utilities

Detroit Lakes

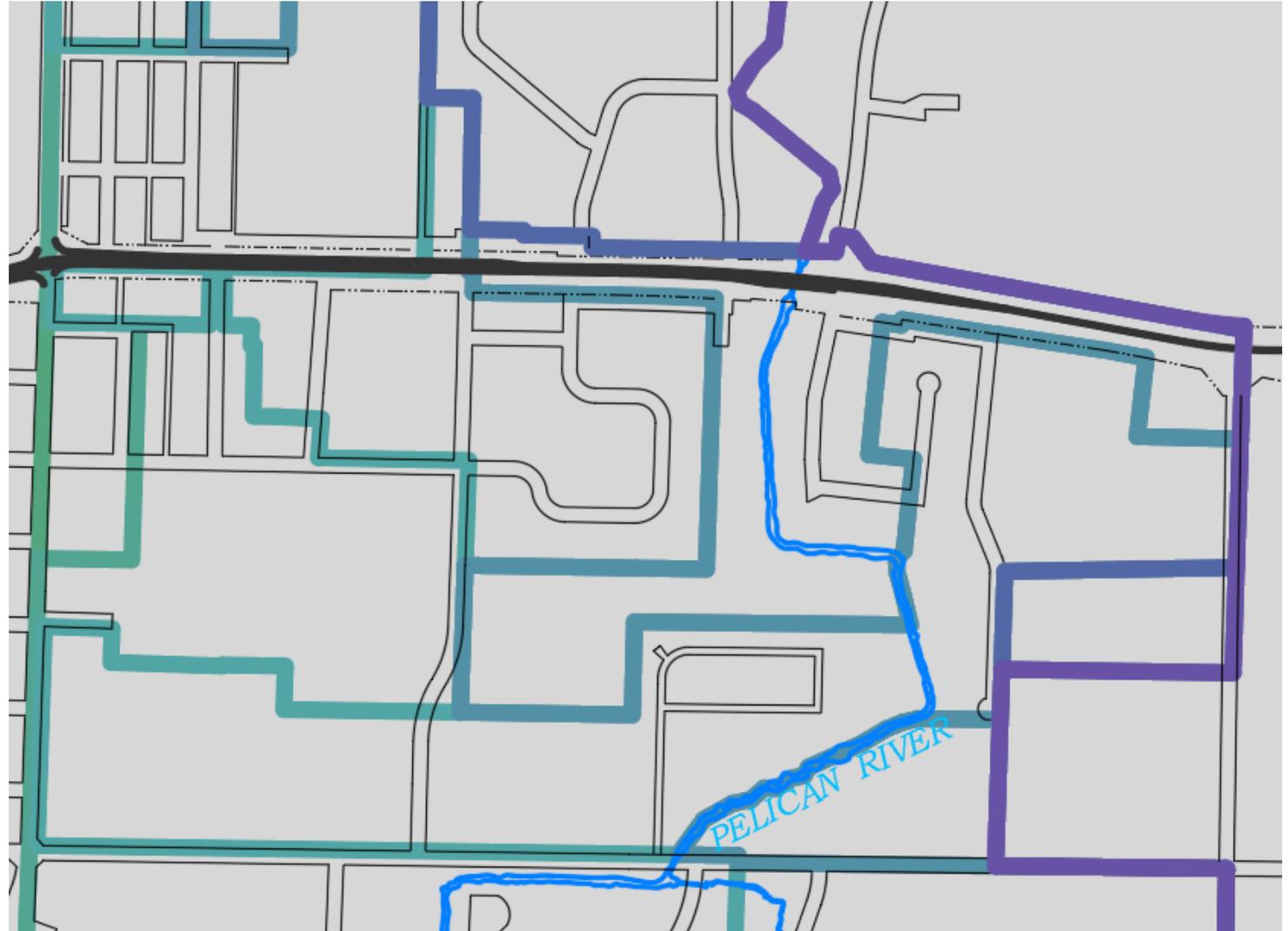
From those 562 layers in my AutoCAD Map, I will probably reduce that to 20+ Layers.

There are several reasons for this.

One of those ways to eliminate Layers will be the Text labeling the size or type of a certain item.



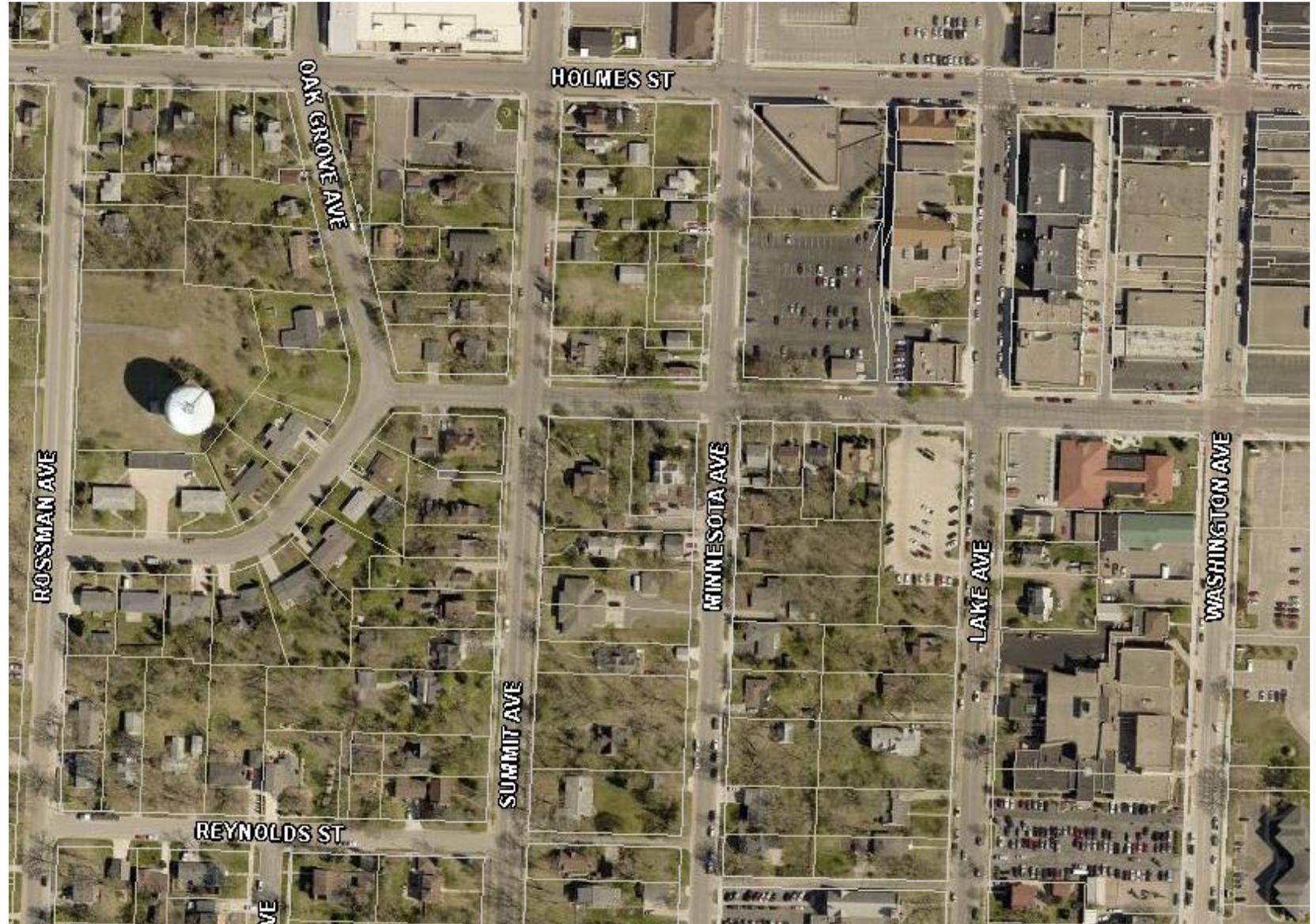
Combining Layers will eliminate a bunch of Layers as well.



Eagle View or Pictometry took our last aerial in 2017.

Our next fly-over will be in 2020 or 2021.

You can see the parcels outlined on this map.



We contracted with Ecopia Team, in Toronto, Ontario to do the building footprints and all the impervious surfaces on each parcel.

The dark grey are the building footprints, medium grey bituminous driveways and the light grey being concrete or commercial parking lots.



Easements

Each Easement File was scanned and a file made of each Easement.

An icon was placed on the map within the easement within each parcel.

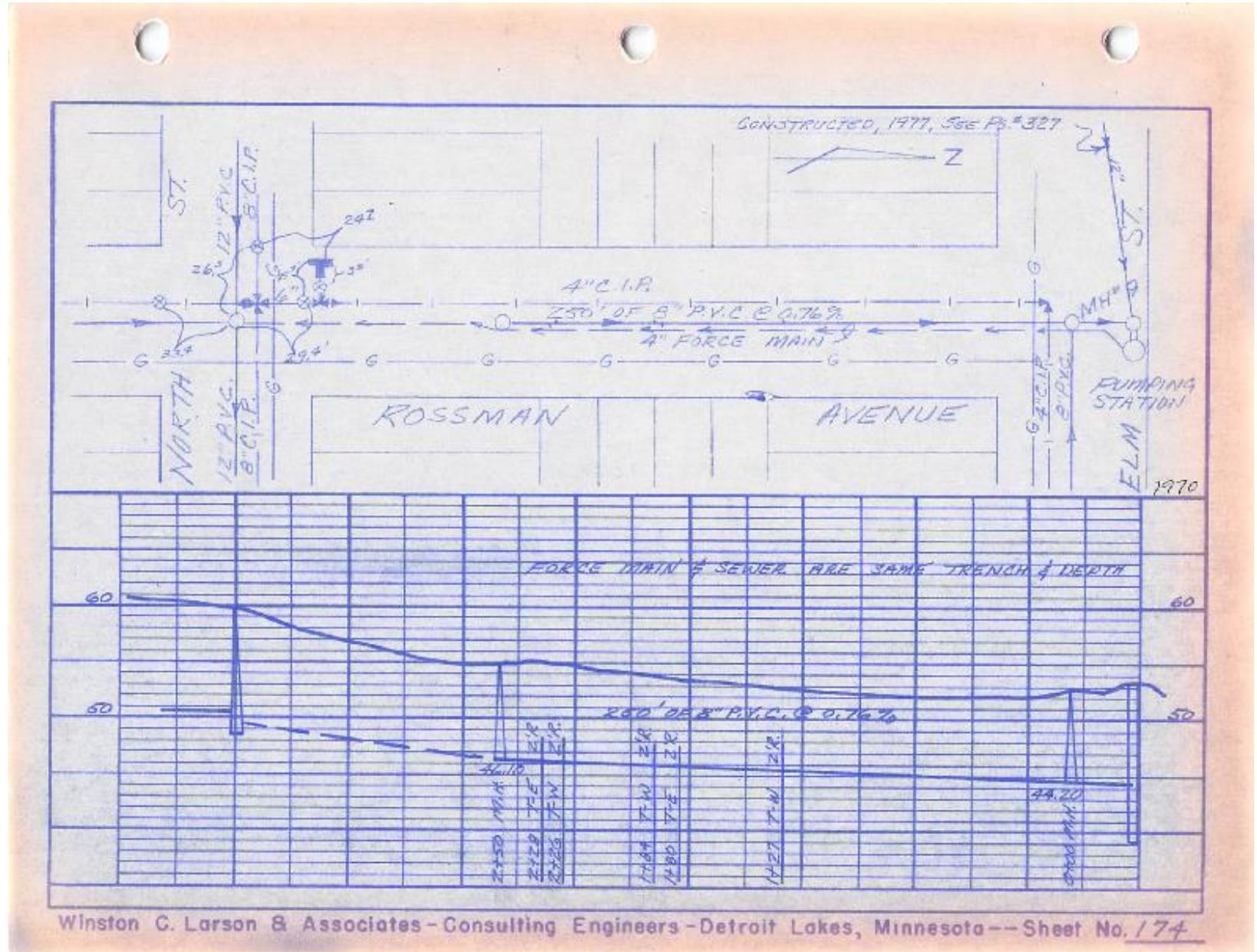
When you click on the icon, a hyperlinked document shows the legal description and the details of each easement.

With one click on our map, our crews know the width and usage of each easement in our system.



RECORD MAPS

We have 1500 Record Maps of our Water and Sanitary Sewer Systems. Each Map was scanned and attached to our GIS System. Our field crews are now able to click on the hyperlinked Record Map icon, and that map will pop up and the crew will be able to see every detail.



GPSed Utility Locations

Midland GIS located most of our utilities.

Sanitary Sewer – 1,481 MHs took 2 months.

Water – 1,886 Gate Values and 743 Fire Hydrants took 1 month.

Electric – 4,000+ Primary Power Poles took 2 months.

Our Staff spotted 3,965 Curb Stops over two summers.

We are also locating our Storm Water System – 1,435 Catch Basins, 706 MHs and 310 culverts, which will probably take 5 years+.

Take this into consideration when you are planning your move to GIS, in 1 summer, Midland spotted 8,110 items, our Street Dept. has taken 3 years to spot 1,200 items, about half of our Storm Water System.

Fire Hydrant Data
 From the Data list
 from Midland GIS to
 our customized list to
 fit our System.



FeatureClassName AliasName	wHydrant wHydrant	FeatureClassName AliasName	Fire Hydrant w Fire Hydrant
FieldName		FieldName	
FACILITYID		Object ID	Do we need this or can it be moved to bottom?
INSTALLDATE		Location Desc.	
MANUFACTURER		Facility ID	
OPERABLE		Manufacturer	
LASTSERVICE		Model	
ACTIVEFLAG		Hydrant Type	Deadend????
OWNEDBY		Steamer	
MAINTBY		Size	4" or 6"
LASTUPDATE		Depth	Height + Ext?
LASTEDITOR		Dead End	
FLOW		OPERABLE	????
HYDRANT_TYPE		Flow	
MODEL		Flow @ 20psi	
GATEVALVE		Gate Valve	Yes / No
OPEN_LEFT		OPEN_LEFT	Don't they all?
BASE_COLOR		BASE_COLOR	Aren't they all red?
CAP_COLOR		CAP_COLOR	Drain or Not
HYDRANT_YEAR		HYDRANT_YEAR	
STEAMER		Picture(s)	
Picture_Number		Northing	
Northing		Easting	
Easting		Elevation	
Elevation		Latitude	For Fire Department Location
MAPPING_TYPE		Longitude	For Fire Department Location
PROJECT_NUMBER		Locate Date	
Latitude		Located By	
Longitude		Location Type	
DeadEnd		Inspected By	
LocatedBy		Last Serviced	
		Owned By	City / Private
		Maint By	City / Private
		Last Update	
		Last Editor	
		Comments	
		Installed Date	
		Installed By	
		Project Number	
		PIN	PIN/Street

Sanitary Sewer
Main Data
From the Data list
from Midland GIS to
our customized list to
fit our System.

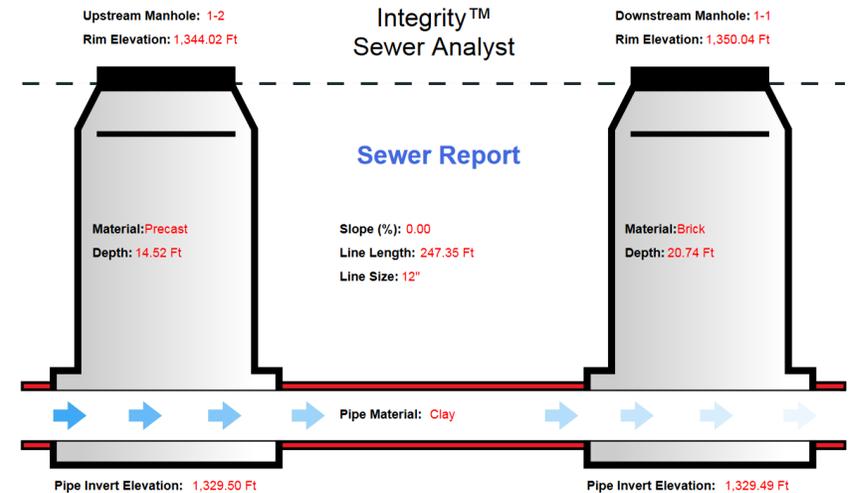


FeatureClassName	ssGravityMain	SS Gravity Main	
Description	ssGravityMain	Sanitary Main	
ID		Object ID	
UpstreamMH		Location Desc.	
DownstreamMH		Facility ID	
PipeClass		Material	
MainDiameter		Diameter	
Material		Manufacturer	
Lined		Depth	
UpstreamInvert		UpstreamMH	
DownstreamInvert		UpstreamInvert	
InstallDate		DownstreamMH	
Slope		DownstreamInvert	
SlopeDist		Slope	
CreekCrossing		SlopeDist	
LifecycleStatus		PipeClass	
Enabled		Lined	
Rise		CreekCrossing	
ProjectNumber		Picture(s)	
InstallBy		Northing	
Install_Year		Easting	
		Elevation	
		Locate Date	
		Located By	
		Location Type	
		Inspected By	
		Last Serviced	
		Owned By	City/Private
		Maint By	City/Private
		Last Update	
		Last Editor	
		Comments	
		Installed Date	
		Installed By	
		Project Number	
		PIN	PIN/Street

MH Data

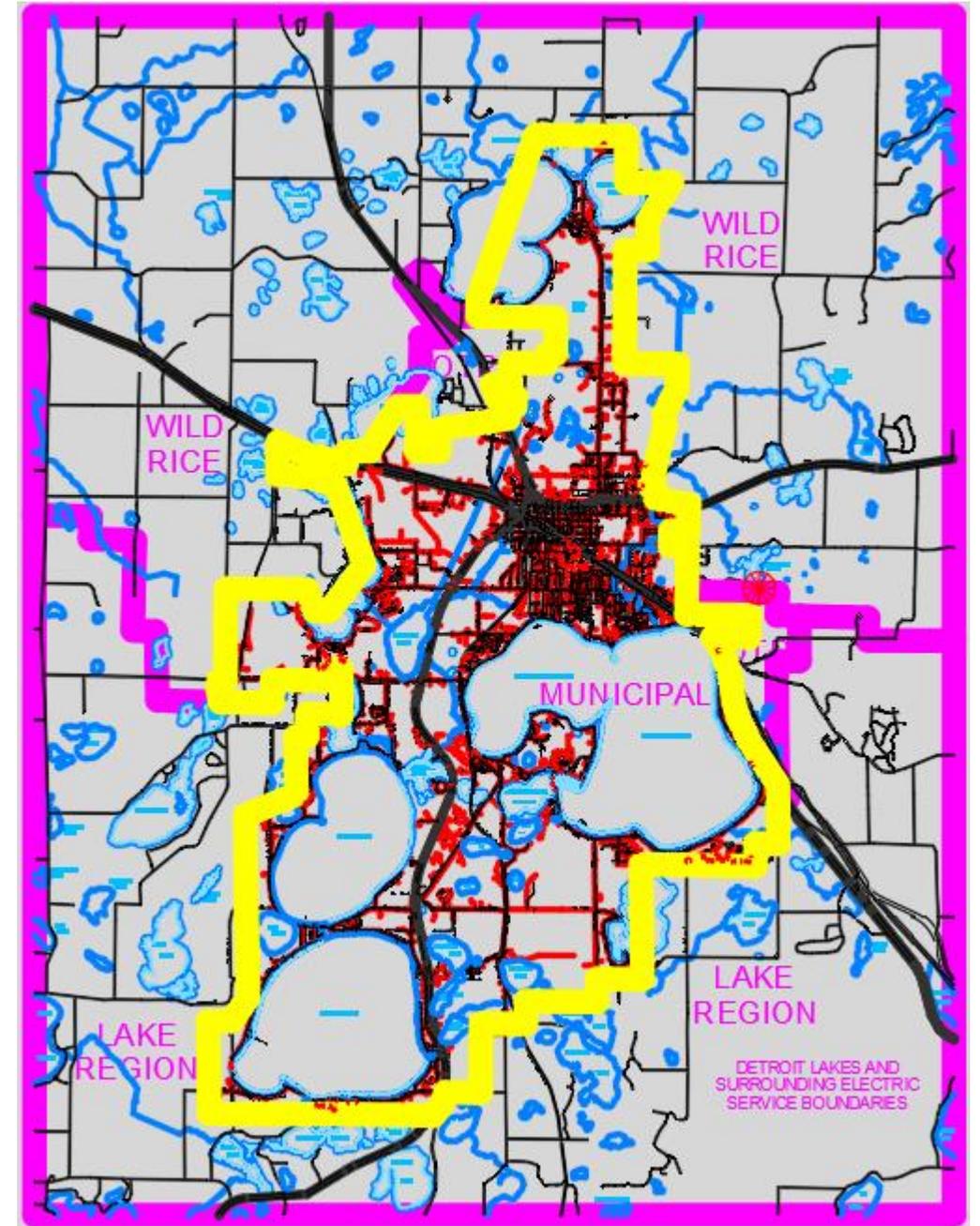
Midland GIS GISED every Sanitary MN in our system. This is a report we get between each MH. Pipe type and size was taken off our Record Maps and old existing maps. Pictures are hyperlinked as well.

Field Name	Field Value
MH_ID	1-2
MH_Type	Standard
Material	Precast
Comments	0
Northing	134206.490395
Easting	457481.520047
Elevation	1344.0151
Condition	Good
Infiltration	False
VertG_Grade	Even
Depth_Buried	0.0
P1_Num	1-3
P1_Diam	12
P1_Mat	VCP
P1_Depth	14.5
P1_Out	F
P2_Num	1-1
P2_Diam	12
P2_Mat	VCP



Electric Territory

Our Electric Utility Territory covers 9 mile north and south and 6 miles east and west. We are surrounded by Wild Rice Electric to the North, Lake Region Electric in the South with two smaller areas of Otter Tail Power in the mix.

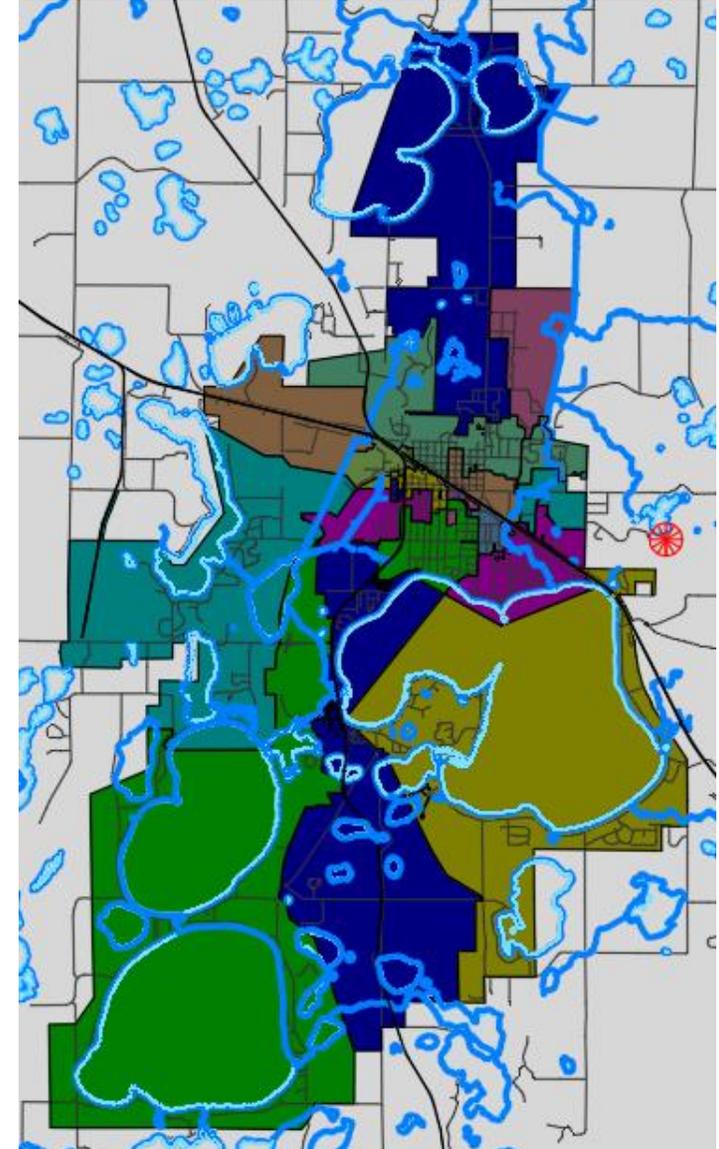


3 Substations with a 4th in the planning stage, we have 25 Feeders.

Our system is labeled like this:
Each Substation has a name,
each Feeder is numbered,
from that each fuse, switch or disconnect is
numbered.

The ID number for a certain fuse labeled W22-14,
means it's from the West Substation, on Feeder 22
and it's randomly labeled No. 14.

Each Transformers will also be numbered.



FeatureClassName	OH Single Transformer
LocDesc	
Feature ID	
StructureID	
Voltage	PP No. - Auto Fill
Line Phase	Drop Down - 120/240, 120/208, 240/480, 277/480, 480
KVA	Drop Down - A, B, C
Manufacturer	Drop Down - Same Sizes, just put in order
Serial_Number	Drop Down - Keep the Same
Impedance	Serial No. - Type in
PCB_Class	Impedance - Type In
PCB Test No.	PBC Class A
PCB_PPM	PCB PPM
PCB Report	Hyper Linked - Tied to Transformer
Gallons_of_Oil	
IFD	Drop Down - Yes, No
Number_Of_Customers	Type in No.
Fault_Current	Auto Fill?
Substation	Drop Down - Front, ID, South, West
FeederID	Feeder No. - Auto Fill
TankMountArrestor	Drop Down - Yes, No
EnergizedBushing	Drop Down - H1, H2
Bushing No.	Drop Down - 1, 2
Ground Rod Resistance	Type in Reading
Inventory_Status	Drop Down - New, Used*
Pictures	
Installed Date	
Installed By	
Comments	



Public Utilities

Detroit Lakes

FeatureClassName	UG Single Transformer
LocDesc	
Feature ID	
Voltage	Drop Down - 120/240, 120/208, 240/480, 277/480
Line Phase	Drop Down - A, B, C
KVA	Drop Down - Same Sizes, just put in order
Manufacturer	Drop Down - Keep the Same
Serial_Number	Serial No. - Type in
Impedance	Impedance - Type In
PCB_Class	PBC Class ????
PCB_Test_No.	PCB Test No.
PCB_PPM	PCB PPM
PCB Report	Hyper Linked
Gallons_of_Oil	Type in
Number_OF_Customers	Type in No.
Fault_Current	Auto Fill?
Substation	Drop Down - Front, ID, South, West
FeederID	Feeder No. - Auto Fill
Fault Indicator	Drop Down - Yes, No
Feed Type	Drop Down - Loop or Lateral
IFD	Drop Down - Yes, No
Ground Rod Resistance	
Inventory_Status	In service or Pole Yard
Pictures	Hyperlinked
Installed Date	
Installed By	
Comments	

FeatureClassName	UG 3 Phase Transformer
LocDesc	
Feature ID	
Voltage	Drop Down - 120/240, 120/208, 240/480, 277/480
SecondaryType	Drop Down - Delta, Wye
KVA	Drop Down - Same Sizes, just put in order
Manufacturer	Drop Down - Keep the Same
Serial_Number	Type in
Impedance	Type In
PCB Class	
PCB Test No.	
PCB PPM	
PCB Report	Hyper Linked
Gallons_of_Oil	
Number_Of_Customers	Type in No.
Fault_Current	Auto Fill?
Substation	Drop Down - Front, ID, South, West
FeederID	Feeder No. - Auto Fill
Fault Indicator	Drop Down - Yes, No
Feed Type	Drop Down - Loop or Lateral
IFD	Drop Down - Yes, No
Primary Switch	Drop Down - Yes, No
Ground Rod Resistance	
Inventory_Status	
Pictures	
Installed Date	
Installed By	
Comments	

FeatureClassName	Recloser
LocDesc	
Feature ID	
Manufacturer	
Serial_Num	
Phase No.	Drop Down - A, B, C
Type	Drop Down - Get List
Continuous_Current	
Min_Trip_Current	
Opening_Sequence	
Substation	Drop Down - Front, ID, South, West
Feeder_Num	Auto Fill?????
Pictures	
Installed Date	
Installed By	
Comments	

FeatureClassName	REGULATOR
LocDesc	
Feature ID	
Manufacturer	Drop Down - McGraw Edison, Cooper, Howard, Other
Serial_Num	
Tap_Changer	
Size_KVA	Drop Down - 85, 115
Substation	Drop Down - Front, ID, South, West
Feeder No.	Auto Fill?
Phase	Drop Down - A, B, C
Controls	Drop Down - ICMI, Cooper CL-5, Cooper CL-6, Cooper CL-7, Other
Tap_Changer	Drop Down - Quick or Spring
Set_Voltage	
Bandwidth	
Delay	
Type B Inverted	
Pictures	
Installed Date	
Installed By	
Comments	

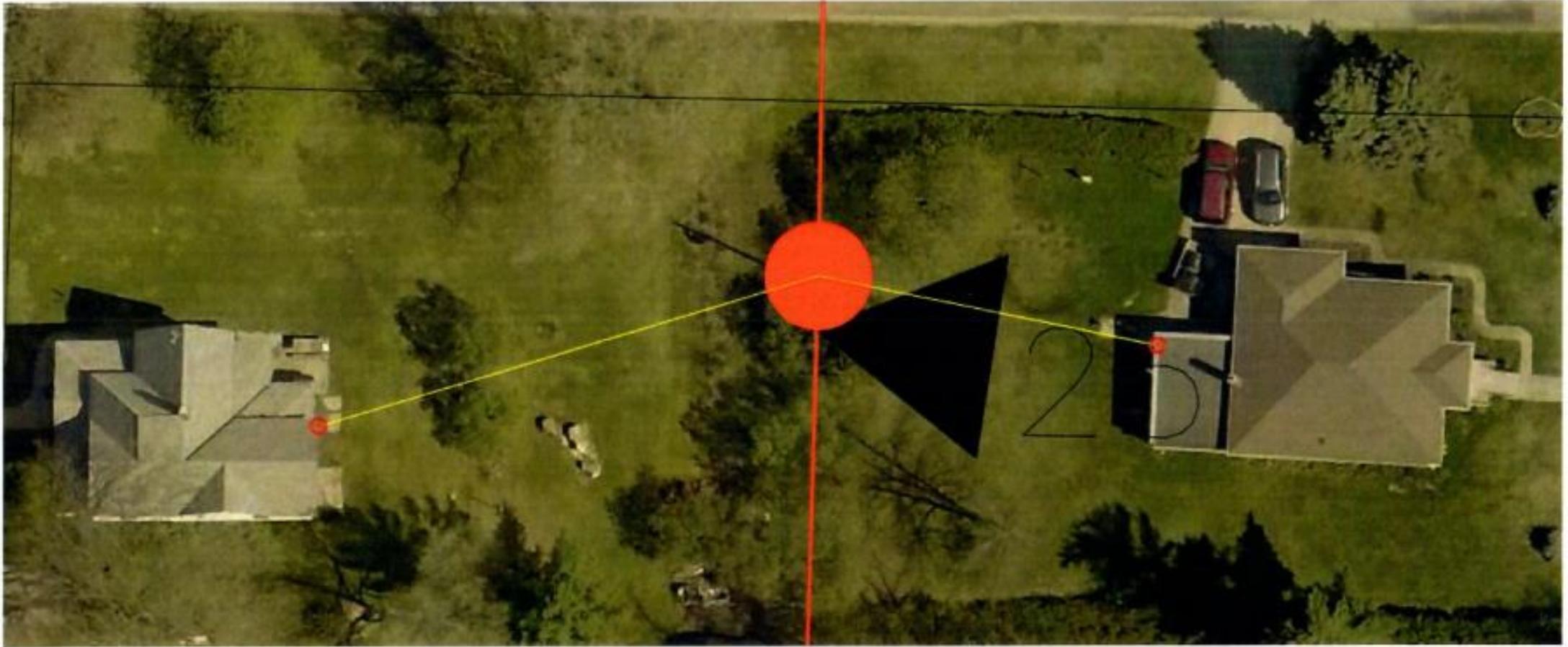
FeatureClassName	POWER POLE
LocDesc	
Feature ID	
Height	Drop Down - 30' to 120'
Class	Drop Down
Material	Drop Down - Wood*, Steel, Lamanate, Other
YearManufactured	Drop Down - Year
Owner	Drop Down - City*, Telephone, OTP, MR, Other
Framing Type	City Spec Book Number Typed in
Framing Type Comments	
Attachment	Drop Down - Telephone, Cable, Fiber, TC, TF, CF, TCF, Others
Guy Wire	Drop Down - No*, Yes
GroundRodResistance	
Pictures	
Inspected By	
Inspection Report	Drop Down - Good, OK, Replace
Installed Date	
Installed By	
Comments	

FeatureClassName	STREET LIGHT
LocDesc	Address
Structrue_ID	Feature ID
Light_Use	Drop Down - Street*, Rental
Metered	Drop Down - Unmetered*, Metered
Owned By	Drop Down - City*, MNDOT, Other
Light_Size	Drop Down - 48, 60, 80, 100, 110, 150, 250, 400, Other
Light_Type	Drop Down - LED*, HPS, Other
Light Style	Drop Down - Cobra Head, Post Top, Round, Security, Tear Drop, Turnpike
Photo_Eye	Drop Down - On Fixture*, Controlled
Pole Type	Drop Down 16' Decorative, 30' Dec, Curved, Straight, Other
Pole_Material	Drop Down - Wood*, Fiberglass, Steel, Self Weathering, Alum., S.S., Concrete, Unknown
Pole Color	Drop down - Black, Brown, Bronze, Other
Arm	Yes*, No
Arm_Type	Single*, Double, Other
Base	Direct*, Screw-in, Concrete, Other
Breakaway	Drop Down - No*, Yes
Pole Manufacturer	Drop Down - Millerbernd, Shakespeare, Other
Decoration Attachmen	Drop Down - No*, Christmas, Banner, Other
Pictures	
Installed Date	
Installed By	
Comments	
	* default

AMR / AMI

- We are planning to install AMR /AMI electric and water meters in 2020.
- Our system will need to be able to track the location of each meter.
- Once we have a location of each water meter and it's service line, we will be able to contact the property owners in case of a water main break or any other service interruption.
- The electric meters will be tied to their transformer. Eventually we will be able to know the service load of each transformer. This will allow us to properly size each transformer in our system. It will also allow us to better manage storm damage, showing which meters are without power, is it a wiped out area or just a PSD (poor squirrel decision).

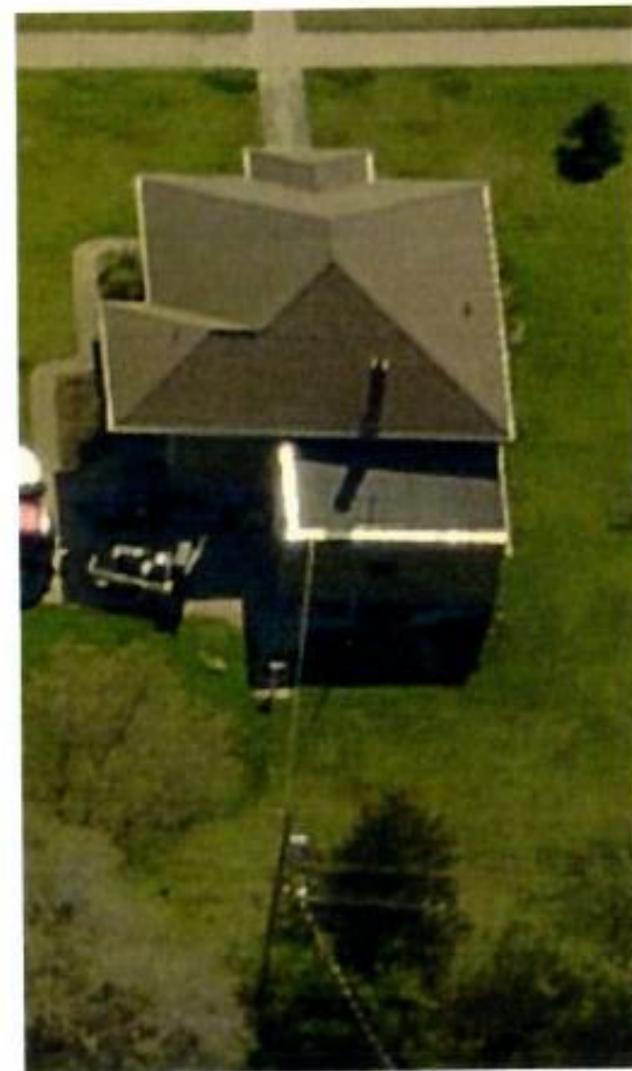
Service Lines and Meters





Meter Locations

It's not always this easy to see the location of each electric meter, but with Pictometry, this is an option for us.





HELP ME OUT

What else should I be talking/asking about?

??????????????

AutoCAD conversion to ArcGIS Pro (almost)

Steven M. Hanson

City of Detroit Lakes

Utility Services Coordinator

Detroit Lakes Public Utilities

smhanson@ci.detroit-lakes.mn.us



Most of the items in my AutoCAD Map are blocks.

I have no data attached to each block.

In order to flip these items over into a GIS program,

I have to edit a block and attach the data.

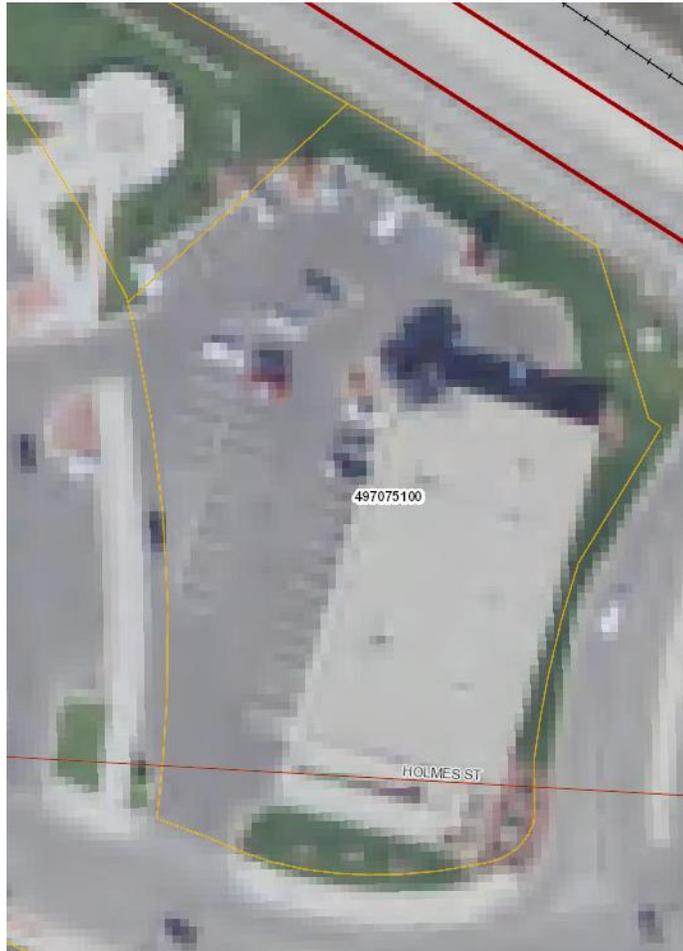
I will need to redraw each block and add the attributes.

I have done this for our Yard Lights, adding address, size, and if metered or unmetered.

Do I have to do this for every Block?

Aerial Comparisons.....

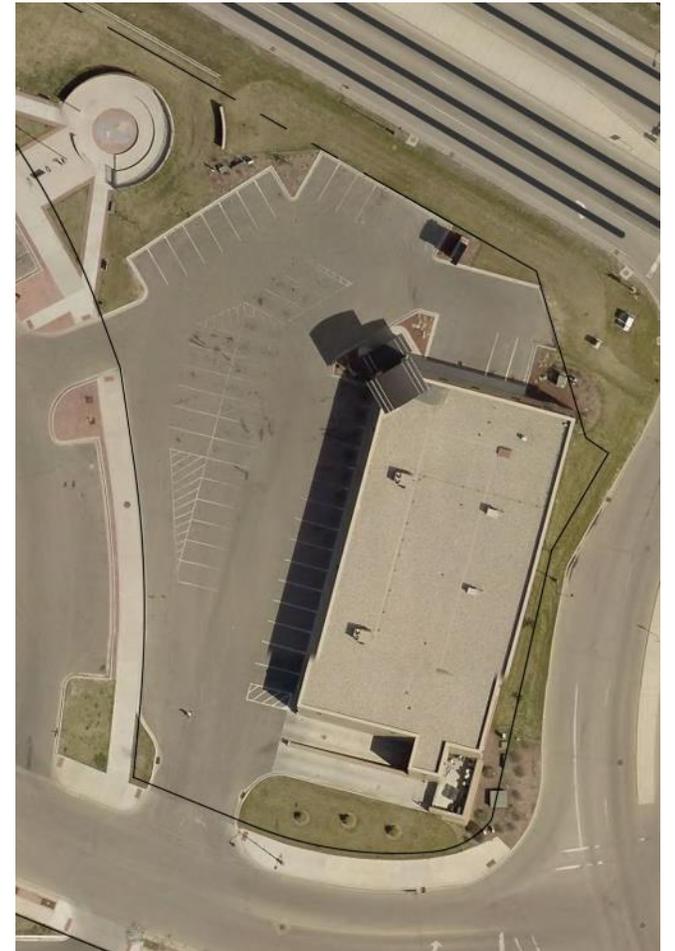
County



Google Earth



City



<http://arcgis.dnr.state.mn.us/maps/mntopo/>

One of the many places to get contours for the State of MN.

<https://www.lib.umn.edu/apps/mhapo/>

I've shown this website before,
but it's a great place to find old aerial maps.

Match the Systems

The City of Detroit Lakes does its billing in InCode and our Building Permit process is through SVLaserfiche. Both of these systems, as well as our GIS System need to make sure that the addresses and parcel numbers match in all three. Making a link possible between each system.

X

X

X.

X

X.

X.

X

X.