

MILWAUKEE COUNTY LAND INFORMATION COUNCIL

June 2018 Council Meeting

AGENDA

Date: June 5th 2018
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD, OJ Noer Conference Room
260 W Seeboth St.
Milwaukee, WI. 53204

- I. Roll Call
- II. Minutes from the Council meeting held December 6th, 2017
- III. Appointments to Land Information Council
- IV. 2018 LIO Workplan Project Updates
 1. New Website Implementation
 2. Migration to IaaS – Cloud Based Infrastructure
 3. Cadastral Improvements
 4. Census - LUCA
 5. Data Transformation to New Datum
 6. 2018 Orthophoto\Oblique Capture
- V. 2018 Land Information Office Budget
- VI. **Reports\Activities**
 1. 2017 Surveyor Activities
 2. 2017 Retained Fees\Grant Report
 3. 2019-2021 Land Info Plan - Draft
 4. Statewide Parcel Submission V4
- VII. **New Business**
 1. Vertical Datum Migration Contract
 2. 2020 Imagery and LiDAR Capture
- VIII. **Date, time, and place of next meeting**
- IX. **Adjournment**

MILWAUKEE COUNTY LAND INFORMATION COUNCIL
December 2017 Council Meeting

MINUTES

Date: December 5th 2017
Time: 9:00 a.m.
Place: Milwaukee Metropolitan Sewerage District
MMSD, Commission Room
260 W Seeboth St.
Milwaukee, WI. 53204

Members Present

Greg High	Director, Architecture, Engineering and Environmental Services Division
Rob Merry	Milwaukee County Surveyor
Emily Champagne	GIS Supervisor, Milwaukee Metropolitan Sewerage District
Dana Kahle	GIS Supervisor, WE Energies, on behalf of Dawn Neuy
Nicole Grams	GIS Analyst, Office of Emergency Management, on behalf of Christine Westrich
Kevin Bruhn	Manager - LIO, Milwaukee County DAS/ECD-LIO
Kathy Bach	GIS Analyst, Milwaukee County Register of Deeds, on behalf of John LaFave
Greg Dresen	GIS Administrator, City of Oak Creek, on behalf of Doug Seymour
Cathleen Hollers	Accountant Supervisor, Milwaukee County, DAS on behalf of David Cullen

Guests and Staff Present

Lacricia McSwain	Accountant, Milwaukee County DAS
Kelly Solomon	Budget Analyst, Milwaukee County DAS
Tim Shomberg	GIS Analyst, Milwaukee County LIO

- I. Roll Call
 1. Vice Chair High called the third meeting of the Land Information Council (LIC) to order at 9:00 a.m. Roll Call was taken by circulating an attendance signature sheet.
- II. Minutes from the Council meeting held June 6th, 2017

1. Minutes from the 2nd Council meeting held June 6th, 2017 were approved without amendment.

III. 2017 LIO Workplan Update

1. Datum Modernization – Horizontal completed. All information is now on MCLIO website.
2. Property Information, Parcels, and Cadastral have been updated quarterly.
3. Training Program: Bruhn explains that more training will be conducted as the Datum transformation project moves forward. This will include how it affects the public and other organizations using the MCLIO's data.
4. Cityworks: Enterprise Asset Management: Cityworks build out is 90% completed. 2018 will be a transitional phase from buildout to support and maintenance.
5. Project Reporting Software: Bruhn explains that project is postponed.
6. Migration to Cloud Based GIS – OneNeck: Project is almost completed. LIO has quadrupled the processing power and storage with this migration. The charges will include cross charging other departments outside of the LIO for servers and storage space. IMSD does not have charges in place to charge for storage, possible that it will not be worked out until 2019.
7. Emergency Management – NG911: Work is beginning to come forward. State has momentum to implement NG911. LIO has not been directly associated with this project.
8. Orthophoto RFP has been completed. Bruhn was able to negotiate a better deal, will be signing the contract in 2017.
9. Data Transformation to New Datum: Rasters: Almost completed, 2005 Aerial photo is last high resolution aerial photo to transform. Remaining aerial photos will go quick and will not have to be transformed tile by tile.
10. Parcel Fabric Pilot: Bruhn explains that parcel fabric currently will not be beneficial to Milwaukee County and is postponed.
11. Document Management System – OnBase: Bruhn explains that MCLIO does not have capacity to move forward on this, therefore the project is postponed.
12. Sanborn Fire Map (1910) Georectification: Project is completed, MCLIO has a service and web application available to the public. Internal and public feedback has been quite positive and the Sanborn application has proven to be very useful.

13. High asks why things that are postponed are not included in 2018 workplan, when they will come back, and how this is tracked. Bruhn states that he was not planning on bringing them back until they are needed. High suggests a future planning/postponed area for these items, and states that postponed may be the wrong word for these items if they will not be revisited. Bruhn to include tracking in the future for the “postponed” projects.

IV. 2018 Land Information Office Workplan

1. New Website Implementation – Titan: Bruhn explains that Milwaukee County is implementing a new County wide website. The MCLIO is taking this as an opportunity to redesign website to make data and applications more available to the public. The MCLIO will have a direct link on Milwaukee County’s homepage.
2. Migration to Cloud Based GIS – One Neck: Bruhn explains that this implementation includes load balancers, greater technology for availability, security, and disaster recovery.
3. Cityworks – Enterprise Asset Management: This is currently handled by the capital budget, 2018 will include a transition to support and maintenance.
4. Emergency Management – NG911: Bruhn asks Grams or Champagne to explain. Grams explains that State level meetings are beginning to occur. All of planning for NG911 will occur in 2018. MCLIO will likely be asked to submit centerlines and address point data quarterly with the parcel data. Bruhn responds that MCLIO will be able to adapt however it needs to.
5. Cadastral Improvements: Bruhn explains that this will be largest project for 2018 and 2019. In 2017 MCLIO took responsibility of maintaining of mapping out the City of Milwaukee. Goal is to have most up to date possible County-wide. This will be responsibility of GIS Technician that was put in 2018 budget. Champagne asks how discrepancies between City of Milwaukee and Milwaukee County data will be handled. Bach says that we will not be able to quality assure all of the City’s easement data. This may be able to be revisited in the future. Bruhn says that discrepancies are fixed when they are brought up. Bruhn will follow up with the City of Milwaukee to reconcile the differences. Overall the County will rely on the ROD recordings. Bach says that they have uncovered a lot in the pilot, stresses that the first phase of this project is cosmetic and identifying issues. Bruhn explains that this is a long term project and will be reported on in the future.
6. Local Update Census Address (LUCA): Supporting 2020 Census update, Milwaukee County is registered as a participant of LUCA. City of

Milwaukee will take care of their own addresses. Project should be starting some time in February 2018.

7. Milwaukee County Zoning Data Compilation: Land Information Office is going to attempt to compile all of the municipalities zoning data. Each municipality records this data differently. Bach asks if this is required by the state. Bruhn replies that Milwaukee County has a waiver for it, this is only an effort by the LIO.
8. Non-Map GIS: The LIO is going to put in place an online simple text search that returns all information associated with the given property.
9. Data Transformation to New Datum – Vectors: Currently the MCLIO is transforming all of their data to the new datum.
10. Datum Modernization – Vertical: Contract through SEWRPC to complete this work. This will be done as a 7 county region after the horizontal modernization is complete. Merry states that this should begin sometime around June 2018 and be completed by the beginning of 2019.
11. 2018 Orthophotography – Processing: Plan is to have flight completed in early spring. This will included a 3 inch resolution aerial photo and obliques. These should be available in Q3 of 2018.
12. Sanborn Fire Map (1894) Georectification: Like the 1910 Sanborns, the LIO plans to georectify the 1894 Sanborns. High asks what kind of entities use these services. Champagne explains that they are very helpful for MMSD at a project planning level.
13. Update Land Information Plan 2018-2021: Every 3 years the LIO is required to submit a 3 year plan to state for all projects, funding, and organizational structure. This will be completed and revisited with the committee for the December 2018 cycle.

V. 2018 Land Information Office Budget

1. 2018 LIO budget presented by McSwain. 2018 budget is \$891,000. LIO gets funding for a new GIS Technician and GIS Intern due to elimination of the City of Milwaukee contract. Bruhn adds that contract is still in place for SEWRPC surveyor, Merry confirms that this contract will not change.

VI. 2018 Organizational Structure

1. MCLIO has been moved to Facilities Management Division for 2018. Additional organization created called County GIS in addition to the Land Information Office. County GIS is not yet funded. GIS Technician and GIS Intern positions added to Land Information Office.

VII. Reports\Activities

1. Educational Outreach

- LIO hosted a user group and Humboldt Park. This included presentations on LIO updates, SEWRPC datum updates, Pictometry new products and updates, and the Sanborn project updates.
2. 2018 Strategic Initiative Grant Request
 - Milwaukee County is eligible for \$1,000 grant for training and \$50,000 grant for County initiatives. Bruhn will be submitting this by the end of the year. This was also submitted for the 2018 orthophotography.
 3. SEWRPC Datum Update Report
 - Bruhn asks Merry to speak about this. Merry explains that SEWRPC took on project to update region from NAD27 to NAD83 2011. Kahle asks if there is a consumable product of monuments available. Merry replies that they can be made available as a shapefile.
 4. Asset Management Update
 - County has 500 buildings, 5,000 rooms, and about 50,000 assets mapped out for Cityworks. They have also created about 35 collector apps for county employees to collect asset data. High asks if security has been a concern for anyone. Bruhn answers that IMSD is handling the connection security and sensitive data has higher security. Kahle explains that WE Energies has disclosure agreements for agencies that use their data.
 5. Raster Transformation Update
 - MCLIO is using 3rd party software to transform rasters. 2018 orthophoto will be in NAD83 2011 and no more data in the future will be created in NAD27.
 6. 1910 Sanborn
 - 1910 Sanborn maps georectified. Application has had very positive feedback. High adds that the data on the Sanborn maps was collected on the ground, not using aerial photos, it is very detailed.

VIII. New Business

1. Renew Appointments to Land Information Council – 2 Year
 - Every 2 years the LIC is required to reinstate members. Communication will be sent to them members before the next LIC meeting.

IX. Date, time, and place of next meeting

1. Tuesday June 5, 2018 9:00 a.m.-11:00 a.m. No objections. MMSD will

again host.

X. Adjournment



**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018
SUBJECT: Land Information Council Appointments

BACKGROUND

The Land Information Office needs to reaffirm the Land Information Council (LIC) members every 2 years. All members of the LIC have stated that they would continue to represent their organization except for the Intergovernmental Cooperation Council (ICC) member, Doug Seymour. I, along with the assistance from the Milwaukee County Office of Emergency Management Director, Christine Westrich will solicit a representative from the ICC for the next LIC meeting.

I would also like to open up discussion on the LIC positions of Chair and Vice Chair. In the past, the chair and vice chair have been nominated for the term. This is an advisory council with a few items that need to record votes including the 3 year Land Information Plan. I would like to gain input on continuing with the roles and if so, the need for nominations for these positions.

59.72 (3m) LAND INFORMATION COUNCIL.

(a) If the board has established a land information office under sub. (3), the board shall have a land information council consisting of not less than 8 members. The council shall consist of the register of deeds, the treasurer, and, if one has been appointed, the real property lister or their designees and the following members appointed by the board for terms prescribed by the board:

1. A member of the board.
 2. A representative of the land information office.
 3. A realtor or a member of the Realtors Association employed within the county.
 4. A public safety or emergency communications representative employed within the county.
 - 4m. The county surveyor or a professional land surveyor employed within the county.
 5. Any other members of the board or public that the board designates. (am) Notwithstanding par. (a), if no person is willing to serve under par. (a) 3., 4., or 4m., the board may create or maintain the council without the member designated under par. (a) 3., 4., or 4m.
- (b) The land information council shall review the priorities, needs, policies, and expenditures of a land information office established by the board under sub. (3) and advise the county on matters affecting the land information office." [(Wis. Stat. § 59.72 (3m))]

MEMBER

Milwaukee County Board of Supervisors
Land Information Office
County Treasurer
Office of Emergency Management

APPOINTEE

Supervisor Jason Haas
Kevin Bruhn
Cathleen Hollers for David Cullen
Christine Westrich

County Surveyor
Milwaukee County Register of Deeds
City of Milwaukee Chief Information Officer
Milwaukee Metropolitan Sewerage District GIS
Intergovernmental Coordinating Council
Department of Administrative Services
We Energies

Robert Merry
Kathleen Bach for John LaFave
Nancy Olson
Emily Champagne
TBD
Greg High
Dawn Neuy

ACTIVITIES THIS PERIOD – 6/17 – 12/17

- Confirmed Appointments
- Scheduling an item for Intergovernmental Cooperation Council meeting for ICC rep appointment.
- Explore posting materials on County Legislative Information Center, CLIC.

LIO 2017 Workplan

TASK	STATUS	COMMENTS	PREVIOUS %	CURRENT % COMPLETE	LAST UPDATE	ASSIGNED TO	START DATE	END DATE	BUDGET	SPENT TO DATE	REMAINING FUNDS	SOURCE
1.) Datum Modernization - Horizontal	Complete		20	100	12/5/17	LIO/SEWRPC	1/1/2017	6/30/2017	\$ 63,000	\$ 33,396	\$ 29,604	2016/17 Grant
2.) Data Currency	Complete		0	100	6/1/17	LIO	1/1/2017	6/1/2017	\$ -	\$ -	\$ -	
3.) GIS Training Program	Suspended	Training will proceed if projects and demand is warranted	10	10	6/6/17	LIO	1/1/2017		\$ 5,000		\$ 5,000	Recording Fees
4.) Cityworks - Enterprise Asset Management	In Progress	Project carried over to 2018	60	90	12/5/17	LIO/IMSD	1/1/2017	6/30/2018	\$145,000	\$ 108,000	\$ 37,000	County Capital
5.) Project Reporting Software	Suspended	Project was been put on hold until a viable solution is found	0	0	6/6/17	LIO	1/1/2017		\$ 5,000		\$ 5,000	Recording Fees
6.) Migration to Cloud Based GIS - OneNeck	In Progress	Project carried over to 2018	10	50	12/5/17	LIO/IMSD	3/1/2017	6/30/2018	\$ 20,000		\$ 20,000	Cross Charge with IMSD
7.) Emergency Management - NG911	In Progress	Project carried over to 2018	0	10	12/5/17	LIO-Emergency Mgmt	6/1/2017	12/31/2018			\$ -	
8.) Orthophoto RFP	Complete		0	100	6/6/17	LIO	7/1/2017	11/30/2017	\$150,000	\$ 137,286	\$ 12,714	Recording Fees
9.) Data Transformation to New Datum - Rasters	In Progress	Project carried over to 2018	30	85	12/5/17	LIO	8/1/2017	11/30/2017	\$ 37,600	\$ 449	\$ 37,151	2016/17 Grant
10.) Parcel Fabric Pilot	Will be Reevaluated for Next Year Workplan	Will be Reevaluated after the 2018 Cadastral Improvement project is complete	0	0	6/6/17	LIO/Consultat	9/1/2017		\$ 20,000		\$ 20,000	Recording Fees
11.) Document Management System - OnBase	Suspended	Project will proceed again if need arises	0	0	6/6/17	LIO/IMSD	9/1/2017		\$ 5,000		\$ 5,000	Cross Charge with IMSD
12.) Sanbron Fire Map (1910) Georectification	Complete		50	100	12/5/17	LIO	5/1/2017	10/31/2017	\$ 12,000	\$ 4,817	\$ 7,183	Recording Fees

LIO 2018 Workplan

TASK	STATUS	COMMENTS	PREVIOUS % COMPLETE	CURRENT % COMPLETE	LAST UPDATE	ASSIGNED TO	START DATE	END DATE	BUDGET	SPENT TO DATE	REMAINING FUNDS	SOURCE
1.) New website Implementation - Titan	Complete	Waiting to be published	0	100	6/5/18	LIO/IMSD	1/1/2018	6/30/2018	\$ -		\$ -	
2.) Migration to Cloud Based GIS - One Neck	Complete	Migration is complete	50	100	6/5/18	LIO/IMSD	3/1/2017	6/30/2018	\$ 40,000	\$ -	\$ 40,000	Cross Charge with IMSD
3.) Cityworks - Enterprise Asset Management	In Progress	Capital funding will run out Q4 of 2018	90	95	6/5/18	LIO/IMSD/FMD	1/1/2017	11/30/2018	\$ 45,500	\$ 5,738	\$ 39,762	County Capital
4.) Emergency Management - NG911	In Progress	OEM will support this item using services already available from LIO	10	10	12/5/17	LIO/EOM	1/1/2017	12/31/2018	\$ -		\$ -	
5.) Cadastral Improvements	In Progress	Workflow and procedures are complete. Started technical tasks.	0	5	6/5/18	LIO	1/1/2018	12/31/2019	\$ 150,000	\$ 1,369	\$ 148,631	Recording Fees
6.) Local Update Census Address (LUCA)	Complete	7,928 address have been updated and sent to Census	0	100	6/5/18	LIO	2/1/2018	5/31/2018	\$ -		\$ -	
7.) Milwaukee County Zoning Data Compilation	Not Started		0	0		LIO	3/1/2018	12/31/2018			\$ -	
8.) Non-Map GIS	Not Started		0	0		LIO	6/1/2018	12/31/2018	\$ -	\$ -	\$ -	
9.) Data Transformation to New Datum - Vectors	Complete	621 vector layers are in NAD83 HARN	0	100	6/5/18	LIO	1/1/2018	12/31/2018	\$ -	\$ -	\$ -	
10.) Datum Modernization - Vertical	Not Started	Contract is being processed	0	0		LIO/SEWRPC	6/1/2018	6/30/2019	\$ 50,000		\$ 50,000	2017 SI Grant
11.) 2018 Orthophotography Processing	In Progress	Connect Explorer is updated. Full delivery estimated for Q4	0	0	6/5/18	LIO	1/1/2018	6/30/2019	\$ 150,000	\$ 137,286	\$ 12,714	2018 SI Grant Recording Fees
12.) Sanbron Fire Map (1894) Georectification	In Progress	Used as a intro project for new temp staff	0	50	6/5/18	LIO	10/1/2017	3/31/2019	\$ 5,000	\$ 492	\$ 4,508	Recording Fees
13.) Update Land Information Plan 2018 - 2021	In Progress	Draft is ready, changes and approval for Dec. LIC	0	50	6/5/18	LIO	10/1/2018	12/31/2018	\$ -	\$ -	\$ -	Recording Fees



DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018

SUBJECT: County and LIO Website Upgrade - Titan

BACKGROUND

Milwaukee County has upgraded the website for the organization. As part of the larger project, the Land information Office was redesigned and has been promoted in the main entry point for the County. The LIO has also used this time to reorganize and clean up the cluttered web pages to make navigation easier. We will also release a number of new easier to use applications when the new site is published.

ACTIVITIES THIS PERIOD: 12/16 – 6/17

- Redesign the LIO page
- Entry points created from main County page
- Clean up of LIO material
- Streamline of information, applications and open data pages

Attached: Examples of new website





MILWAUKEE COUNTY
Administrative Services

- County Executive
- Board of Supervisors
- Other Elected Officials
- Departments & Divisions
- Budget & Finance
- Public Records
- Elections & Voting

Milwaukee County How Do I... Our County Residents Businesses News & Events

- Get a Birth Certificate
- Real Estate Records
- GIS Applications
- County Operating Procedures
- Ethics Board
- Open Records Request



Our County
Milwaukee County's mission is to "provide high-quality, responsive services that enhance self-sufficiency, personal safety, economic opportunity and quality of life for its entire people."

County - Administrative Services

Performance Strategy and Budget

PSB provides staff resources on budget, fiscal and management matters as well as assisting and overseeing, managing and controlling budget and fiscal plans.

[Learn About the Budget Process](#)

Economic Development

We market tax-deeded foreclosed properties for all municipalities in Milwaukee County except for the City of Milwaukee.

[Real Estate for Sale](#) [Learn About Our Initiatives](#)

Community Business Development Partners

The CBDP designs, implements, monitors and enforces Milwaukee County's targeted, small and Disadvantaged Business Enterprise (DBE) programs.

[Get DBE Certification](#) [Contract With Milwaukee County](#)

Land Information Office

We provide location-based data and technology services and advance the use of this technology within Milwaukee County.

[View GIS Applications](#) [Download GIS Data](#)
[Stay Informed](#)

Providing Property Information, GIS Data and Mapping Applications

County - Administrative Services > Land Information Office

Land Information Office

- GIS Applications
- GIS Data Downloads
- Announcements
- Maps
- About Us
- Projects

Announcements

New Service Site and Web Mapping Application
We recently migrated all of our GIS services and GIS data, and created a new Web Mapping Application. This will affect users in a number of ways.
[Read More...](#)

Cadastral Data Update
Our cadastral data is current as of February 9, 2018, for downloading and viewing!
[Read More...](#)

New Services for 2015 Aerial Photo
As of Monday December 11, 2017, our existing 2015 Aerial Photo services will no longer be available. New services are available now!
[Read More...](#)

GIS Applications

GIS Service Endpoints



Public GIS service endpoint site. Use to view any GIS services that the MCLIO offers.

[Open Application](#)

[More Applications](#)

Cadastral and Property Info Viewer



Use to view cadastral and property information and download cadastral documents.

[Open Application](#)

Interactive Mapping Application



Use to view MCLIO's various GIS data and download cadastral documents.

[Open Application](#)

GIS Data Downloads

Open Data Portal

Variety of GIS data available in Shapefile, KML or spreadsheets.

[Open Application](#)

Data Download App

Topographic, planimetric and cadastral data in CAD and GDB format.

[Open Application](#)

Data Download Form

Access a variety of countywide GIS datasets.

[Open Application](#)



DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018

SUBJECT: Migration to Infrastructure as a Service (IaaS)

BACKGROUND

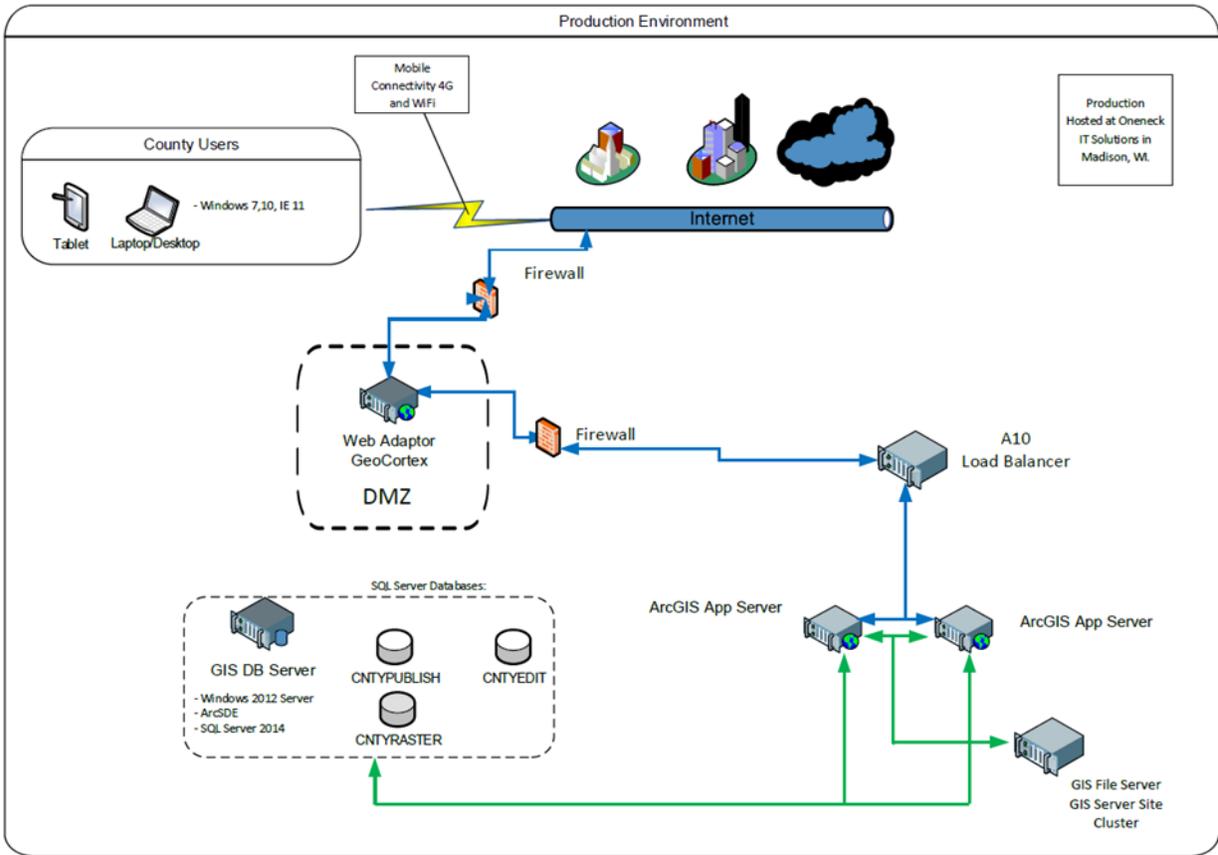
Milwaukee County along with Land Information Office has migrated the computer server hardware to an off-site facility. This has increased the capacity and reliability of the LIO data and services. Specifically, a second GIS production server has been installed as well a load balancer appliance to level the GIS traffic. This additional hardware will be able to handle the increased traffic load in the LIO.

ACTIVITIES THIS PERIOD: 12/16 – 6/17

- Migration to hosted GIS environment
- Cleanup and reorganization of GIS data services
- Load Balancer for increased GIS traffic
- Increased processing and storage capacity

Attached:

Diagram of GIS network achitecture





**DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE**

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018

SUBJECT: Cadastral Improvements

BACKGROUND

In the past MCLIO, formerly known as MCAMLIS, had developed a well-defined cadastral dataset with distinct features. The dataset may have been adjusted over the years to conform to the needs of today's technology and progress but, the core elements remain intact. Within the suburbs the line work, annotation, and polygons are all consistent making all components of the dataset reliable, programmable, editable, and deliverable.

In 2017, the MCLIO determined that the City of Milwaukee parcel data could be edited from within the county and was no longer outsourced to the City. The process for obtaining the parcel changes through the City of Milwaukee COMDIV changes was designed and implemented.

The process of updating the City of Milwaukee Cadastral data was developed 2017. Differences and inconsistencies were noted between the County and City data and a project to standardize this data was created. A pilot project was started in mid-October of 2017 that looked at 6 quarter sections throughout the City to set a foundation for the project. The findings in the pilot project were consistent throughout the 6 quarter sections and staff determined that it would be feasible to move forward on a County wide project. This project now focuses on the annotation, cartographic lines, geometry issues, and will note additional concerns.

- The annotation cleanup will address such items as varying placement of annotation, overstrikes, spacing, easement, and missing data.
- The cartographic lines will focus on removing the duplicate lines, correcting the subtypes in attributes tables, fixing and the location of lines, and addressing the easement details.
- The geometry issues will focus on the misaligned lines and polygons for Certified Survey Maps, Condominiums, and Subdivisions Plats for current data and historical data.

The final part of this project will quantify additional efforts needed by the staff to address specific problem areas like city and county owned land, editing the Condominium data for consistency, editing of Subdivision and Certified Survey polygons, issues with the parcel data, and right of way line work. All line work changes are validated from recorded deeds and documents. Documents that are used are being attached to the changes for historical reference.

The full project went into effect in March of 2018 with the addition of a new GIS Technician. The remaining part of the project will be done with temporary staff and assistance from the ROD

GIS Analyst. The time that is needed to fully research line work changes can be very meticulous and time consuming. There is also an initial high learning curve on the cadastral dataset so the beginning of the project will be slowed. Project progress is expected to increase as experience is gained.

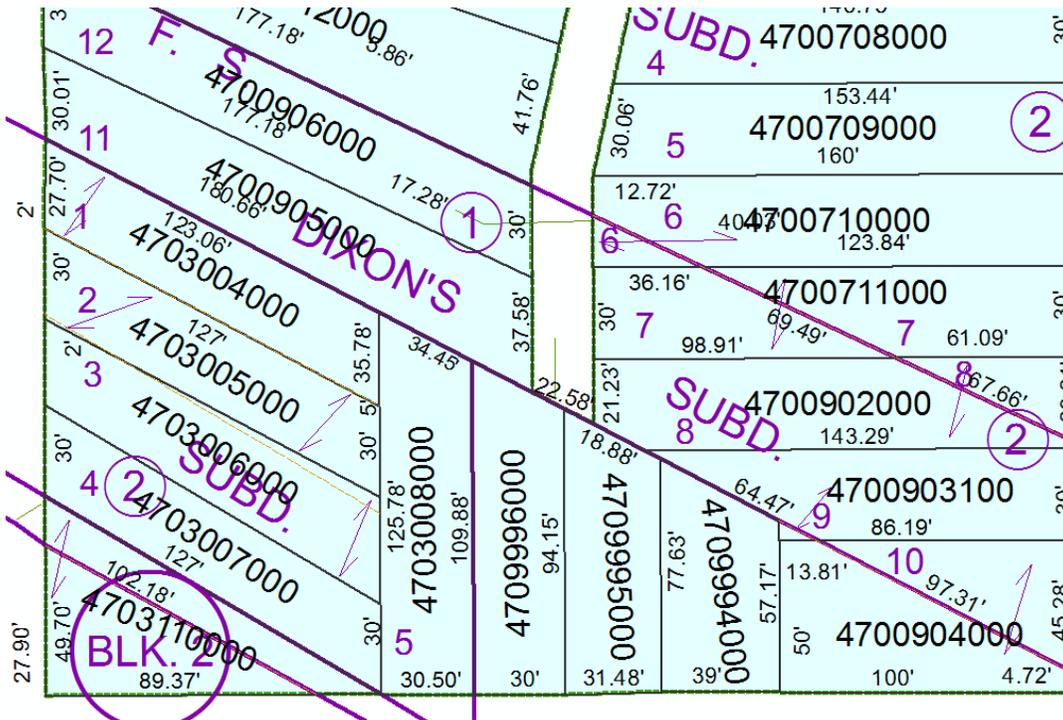
ACTIVITIES THIS PERIOD: 12/16 – 6/17

- Set up the editing environment
- Resources dedicated to project
- Created process and procedure document
- 25 Quarter Sections have been completed

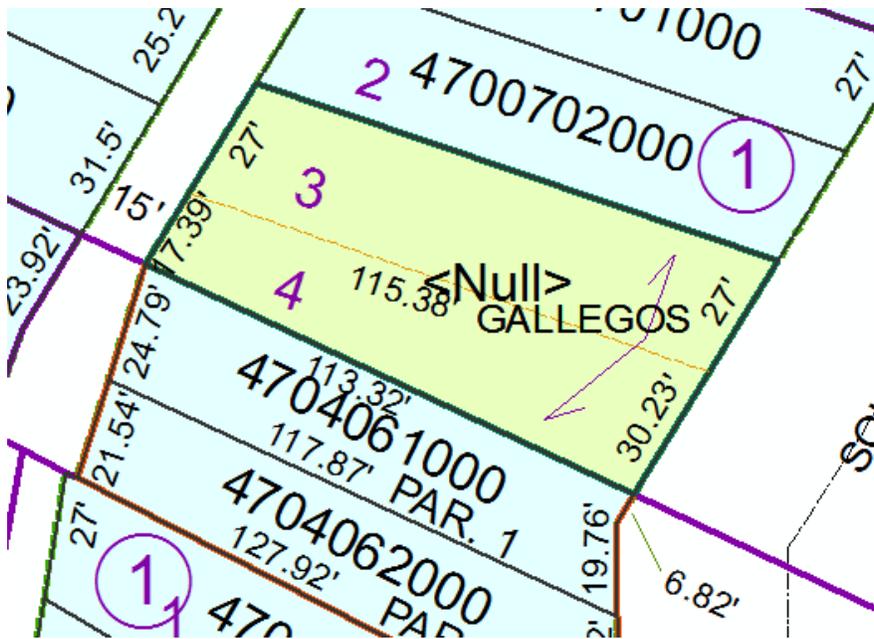
Attached: Progress Report

Examples of items and tasks

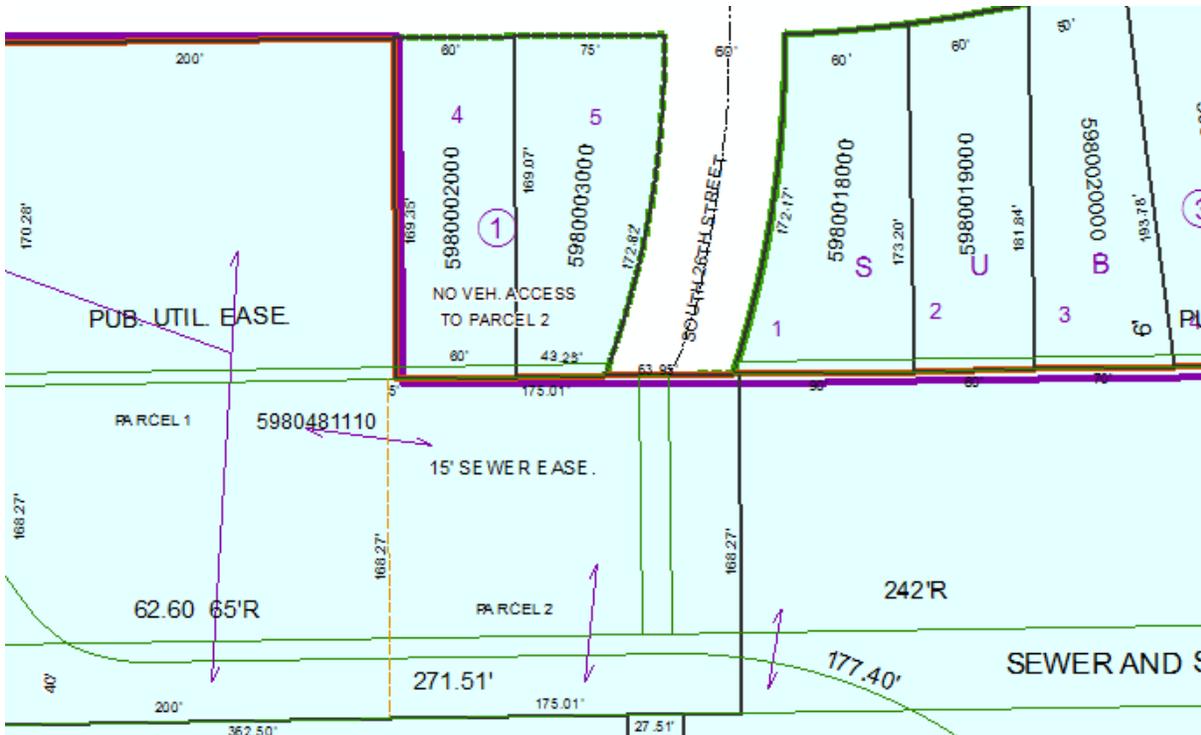
Examples of areas to be cleaned up.



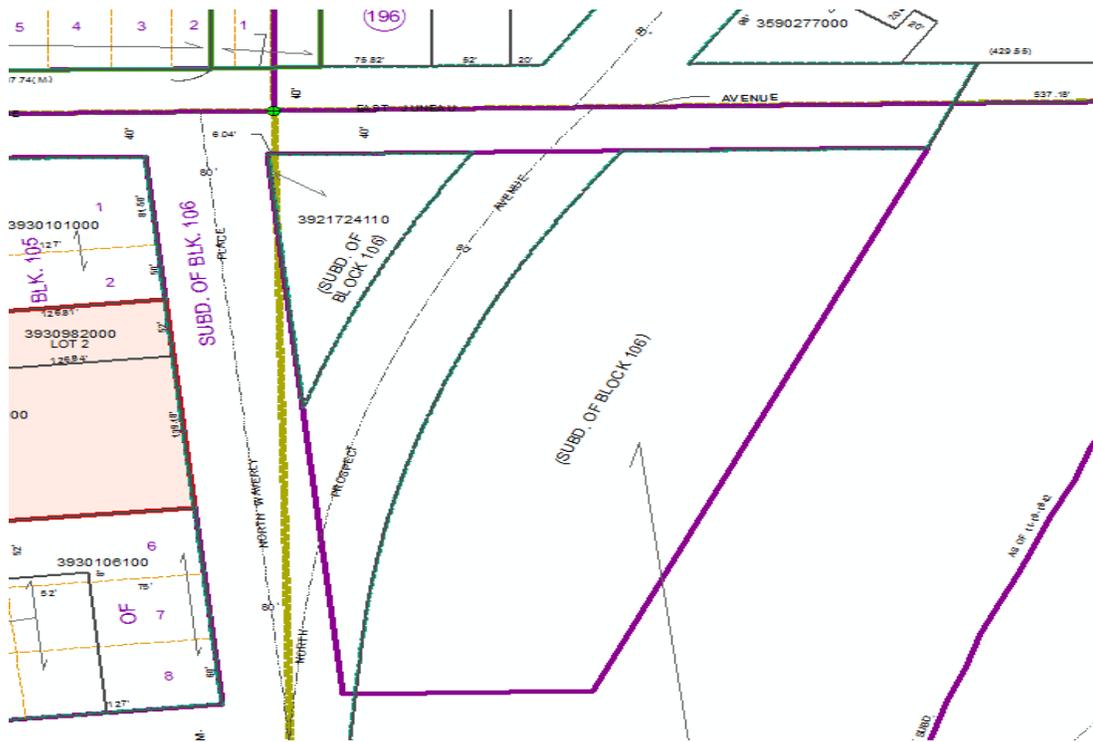
Subdivision Annotation and Cartographic tie lines



Condominiums



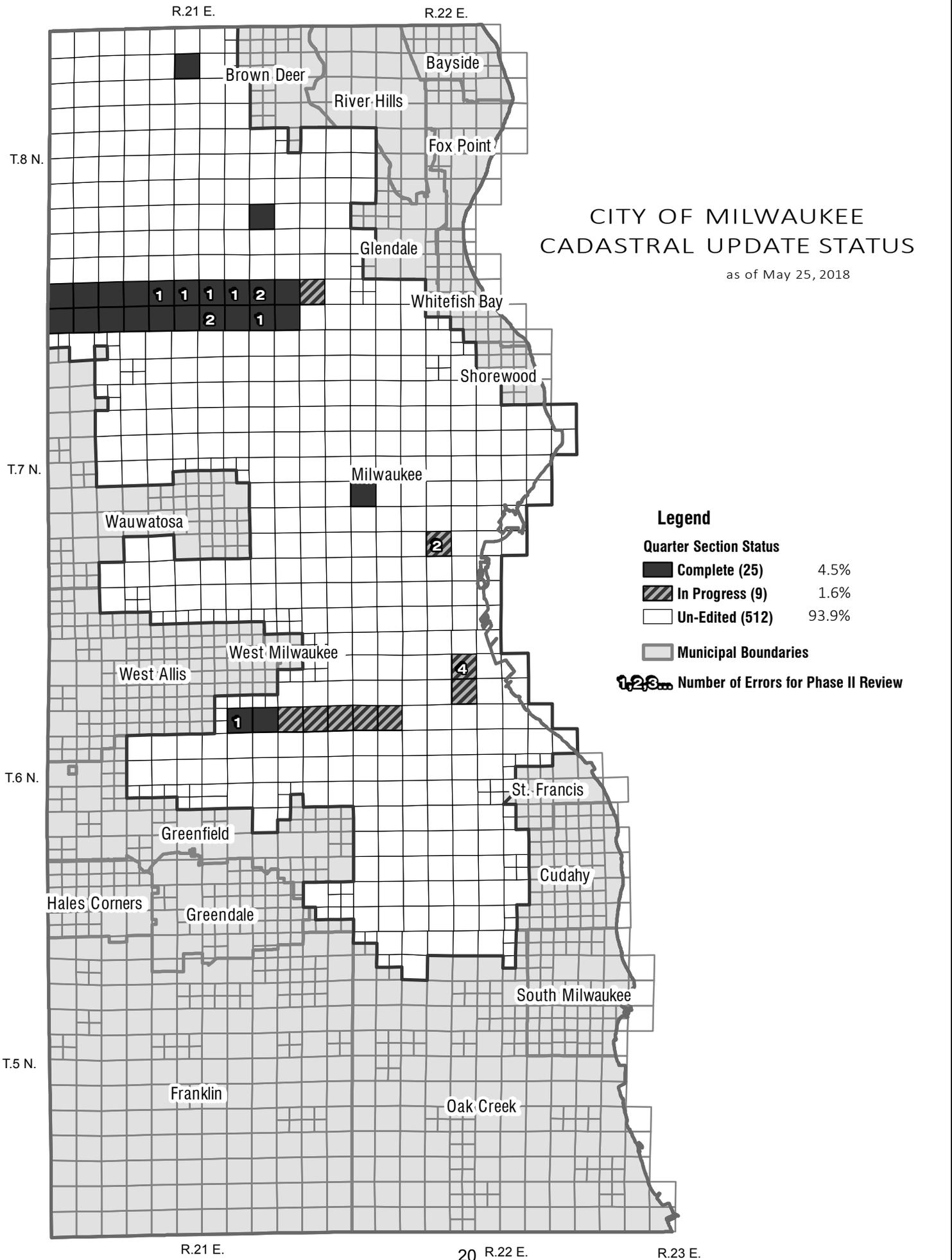
Geometry Issues, Easement data, Annotation



Missing Subdivision annotation and cartographic lines

CITY OF MILWAUKEE CADASTRAL UPDATE STATUS

as of May 25, 2018





DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018
SUBJECT: LUCA – Census Update

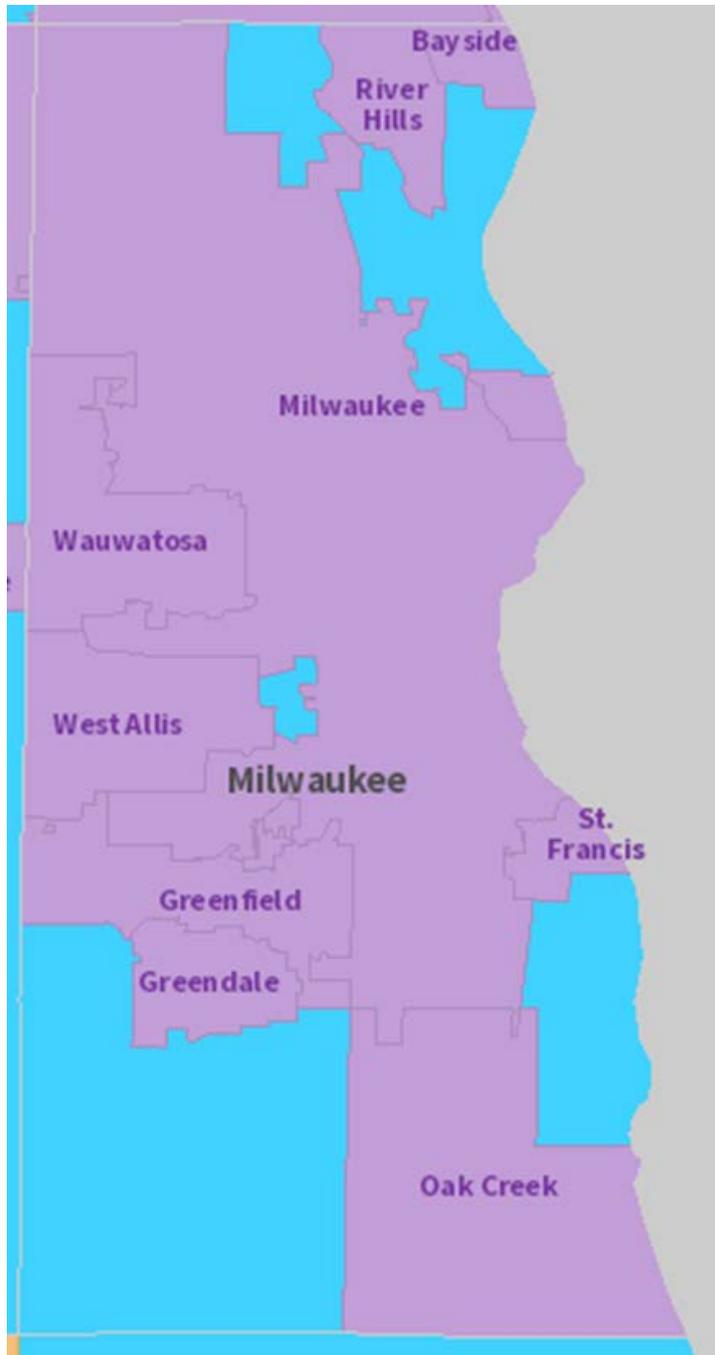
BACKGROUND

The Local Update Census Address (LUCA) program is to prepare the Census for address validation before the individual Census mailers are sent out. Milwaukee County validated the addresses for the following communities: Brown Deer, Cudahy, Fox Point, Franklin, Glendale, Hales Corners, South Milwaukee, West Milwaukee, and Whitefish Bay. The other municipalities have indicated that they will submit their own addresses to the Census Bureau.

ACTIVITIES THIS PERIOD: 12/16 – 6/17

The LIO submitted a total of 7,927 address corrections to the Census Bureau. US Code Title 13 forbids Milwaukee County from using the Census addresses for production. This project was completed within the 120 days allotted from time of data delivery from Census and is now closed.

Attached: Exhibit of LUCA participating municipalities



Municipalities labeled have indicated that they will independently submit addresses.



DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018

SUBJECT: Data Migration for new Datum

BACKGROUND

The Land Information Office currently has 600+ vector datasets. The LIO will host the transformed datasets in the new datum and reproject the services in the old and new datums until municipalities and other vendors have time to migrate to the new datasets.

The raster and vector data has been migrated from NAD 27 to NAD83 HARN. The final step of migration to NAD83 (2011) will be completed when the regional Vertical Datum Migration Project is complete. The vertical project is expected to be complete near the end of the year.

At the conclusion of the vertical datum, the LIO will transform the raster and vector data to NAD83 (2011). This intermediate transformation gives the organizations that utilize the LIO GIS data flexibility and time to adapt to the new datum. The NAD83 HARN gives the LIO the ability to host one set of data and produce two data services. One service is hosted in the NAD27 and the other in NAD83 without duplicating the data.

The LIO will promote the new datum with other Counties in the SEWRPC region. The LIO has been messaging these changes on the LIO website announcement page.



DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018
SUBJECT: 2018 Ortho and Oblique Capture

BACKGROUND

Beginning with the 2005 Regional Orthophotography Project, Milwaukee County has acquired digital orthophotography every two or three years e.g., 2005, 2007, 2010, 2013.... This scheduled orthophotography capture covering Milwaukee County was completed in April of 2018. As part of the flight, training and custom configuration for the Pictometry Explorer product is included. A number of municipalities and internal county departments have taken advantage of this opportunity to configure the application to fit organizational business needs.

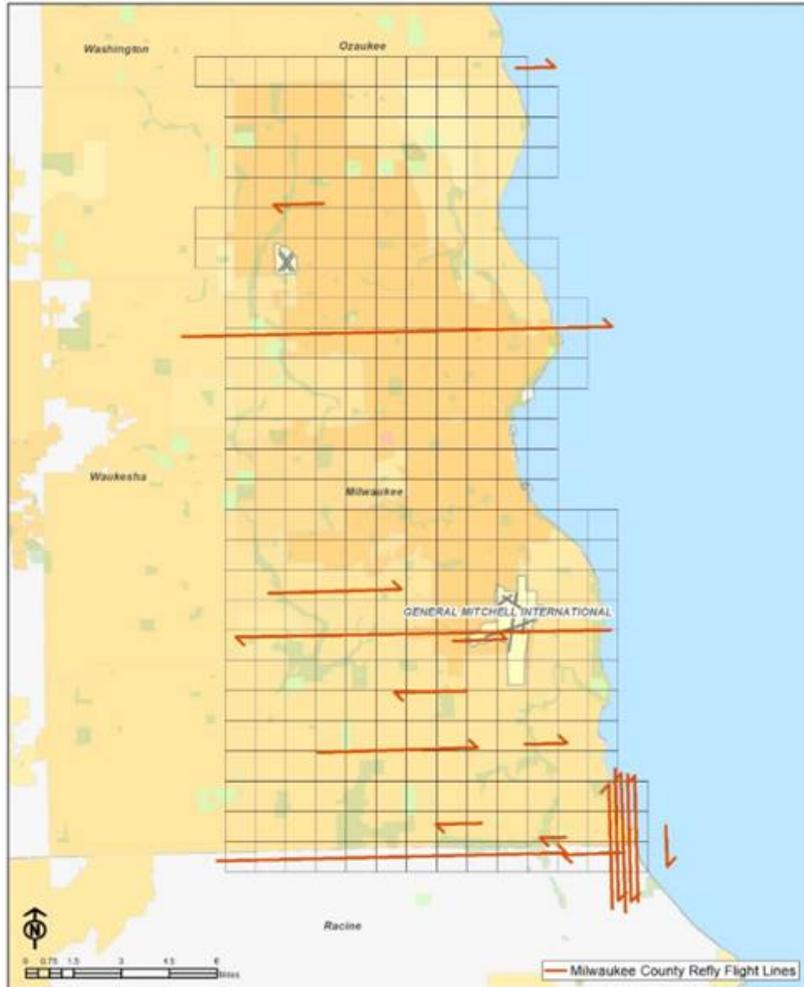
ACTIVITIES THIS PERIOD – 12/17 – 6/18

- Contract for imagery
- 3 Inch Ortho
- 3 Inch Obliques
- Initial capture early April.
- Refly was end of April, for smoke and clouds.
- Individual tiles are available on Connect Explorer.
- Individual tiles are also available in Pictometry window of GIS site.
- The 1 meter countywide mosaic is available and is published.

NEXT

- The Accuplus Product (high resolution seamless image) is being produced.
- Data and services available for publishing and distribution Q3-Q4.

Attached: Refly exhibit



WI Milwaukee - AccuPlus 2018



2018 LIO YTD

	YTD	YE Projected
REVENUES - 2018 YTD		
2018 Record & Filing Fees	\$287,121	\$840,000.00
2017 Encumbrances Carried Over	\$207,810	\$207,810
2018 Grants	\$1,000	\$51,000
2018 Misc Revenue	\$0	\$1,500
TOTAL	<u>\$495,931</u>	<u>\$1,100,310</u>
OPERATING EXPENSES - 2018 YTD		
2018 Actual Expenditures	\$353,526	\$1,098,810.00
2018 Encumbrances	\$159,324	\$159,324
2018 ROD GIS Analyst	\$30,113	\$67,826
TOTAL	<u>\$542,962</u>	<u>\$1,325,960</u>
2018 Est. Net Income (Loss)	<u>(\$47,031)</u>	<u>(\$225,650)</u>

Fund Balance:	YTD	YE Projected
2017 Year-End Fund Balance*	\$1,604,412	\$1,604,412
2018 Operating Revenues (Shown Above)	+ \$495,931	\$1,100,310
2018 Exp + Enc for \$8 Fee Projects	- \$542,962	\$1,325,960
2018 Est Fund Balance**	= \$1,557,381	\$1,378,762
2017 Reserve Revenue @ 10%	\$0	\$0
2018 Est Fund Balance YTD - Unrestricted	\$1,454,416	\$1,275,798
2018 Est Fund Balance YTD - Restricted	\$102,965	\$102,965

*2017 YE Fund Balance represents the current amount in reserve as of 2016 YE close.

**2018 Est YTD Fund Balance represents the 2017 YE reserve netted against the actual 2017 expenditures and revenues. This figure will change throughout the year as additional 2018 expenditures and revenues are realized.

NOTE: 2018 expenditures, revenues, and resulting fund balance are year-to-date ONLY. The figures represented in this report are not intended to project a year-end balance for the LIO budget. The purpose of the report is to provide committee members a "financial snapshot" of LIO activities within a specific point in time.

2018 YTD Fiscal Report - LIO (\$8) - as of 05/23/2018

Vendor Name	Description	Amount Authorized	Amount Paid - Prior Years	Amount Encumbered	Amount Paid 2018 YTD	Canceled Encumbrance	Total Amount Paid (Encumbrances + Actual)	Remaining Unpaid Balance
SOUTHEASTERN WI REGIONAL PICTOMETRY INTERNATIONAL	County Surveyor	82,916.00	-	82,916.00	82,916.00	-	165,832.00	-
	Imagery Acquisition	137,286.00		137,286.00	34,321.50		171,607.50	102,964.50
	<u>2017 Authorized Projects</u>						-	-
SEWRPC	Datum Modernization	33,396.00	-	33,396.00	-	-	33,396.00	-
	TOTAL	\$ 253,598.00	\$ -	\$ 253,598.00	\$ 117,237.50	\$ -	\$ 370,835.50	\$ 102,964.50

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607

TELEPHONE (262) 547-6721
FAX (262) 547-1103

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MEMORANDUM

TO: Mr. Kevin W. Bruhn
GIS Manager-Land Information Officer

FROM: Robert W. Merry, PLS
Milwaukee County Surveyor

DATE: February 19, 2018

SUBJECT: MILWAUKEE COUNTY SURVEYOR ACTIVITIES—2017

This memorandum is intended to provide the GIS Manager-Land Information Officer with a report on the work of the Milwaukee County Surveyor in the calendar year extending from January 1, 2017, through December 31, 2017. The office and the duties and functions of the County Surveyor are prescribed by Section 59.45 of the *Wisconsin Statutes*. In Milwaukee County the necessary work, pursuant to the direction of the County Board, was funded by document recording fees retained by the County pursuant to Section 59.43(2) of the *Wisconsin Statutes*. Since the Milwaukee County Land Information Office is charged by contract with administering these retained recording fees, a report to the Council on the activities of the County Surveyor is in order.

Within Milwaukee County, the U.S. Public Land Survey System has been combined with the State Plane Coordinate System and the National Geodetic Vertical Control System to provide the high order horizontal and vertical control survey network required for the preparation and maintenance of the large-scale topographic and cadastral maps. Therefore, the work of the Milwaukee County Surveyor entails not only the maintenance of the U.S. Public Land Survey System as such, but also the maintenance of the horizontal and vertical control survey network. Consequently, the work requires expertise in geodetic, as well as plane surveying, and in the legal aspects of property boundary determination.

Attachment 1 to this memorandum consists of a map of Milwaukee County on which are shown the location of all of the corners of the U.S. Public Land Survey System for which various types of perpetuation activities were undertaken in calendar year 2017. These activities involved the replacement of monuments marking the location of section, quarter section, center of section, witness and meander corners which were reported as damaged, disturbed, or destroyed, by construction, or other activities or actions. The work involved the setting of new monuments; and, as necessary, the replacement of attendant witness marks and benchmarks, the verification or establishment of new State Plane Coordinate values for corner monuments, and elevations for benchmarks. A total of eight corners required the reestablishment of vertical control survey reference benchmarks which in turn created the need for the Commission staff to complete about six miles of high order differential level lines. New records of U.S. Public Land Survey control station records – dossier sheets – were prepared for each remonumented corner shown on Attachment 1.

A copy of each completed new dossier sheet is provided in Attachment 2 to this memorandum. As indicated on Attachment 1, a total of 28 U.S. Public Land Survey corners were involved in the perpetuation activity from January 1, 2017, through December 31, 2017. In some cases, the perpetuation activity resulted in revised elevations for both the corner monuments concerned and the attendant benchmarks. In such cases, control survey summary diagrams were updated to reflect those changes. A copy of each of the revised diagrams concerned is herewith provided as Attachment 3.

Perpetuation of the corners included, where possible and necessary, the setting of preconstruction witness marks for the corners; remonumentation of the corners; the conduct of high order vertical control surveys to establish the elevations of the corner monuments and of accessories thereto, and the preparation of new dossier sheets for the corners. Where necessary, high order traverse or global positioning system (GPS) surveys were conducted to reestablish, or verify, the state plane coordinate positions of corners.

Preconstruction field work was also completed for 26 U.S. Public Land Survey corners that were expected to require perpetuation due to street and highway or utility reconstruction proposed to be carried out in 2018. These corners are identified on Attachment 1 by open circles. This work included inspection of proposed construction limits at the corner locations; the setting and the measurement of distances to temporary witness marks located outside of the anticipated construction limits; and the transfer of reference benchmark elevations to stable benchmarks set outside of the anticipated construction limits.

It should be noted that, in accordance with Milwaukee County policies relative to the participation and use of disadvantaged business enterprises in the provision of County services, a contract was entered into with the firm of Dakota Intertek Corporation of Milwaukee, Wisconsin--a minority owned firm--to provide assistance to the County Surveyor pertaining to the maintenance of the U.S. Public Land Survey System. More specifically, the contract provided for assistance in the remonumentation of broken or substandard concrete monuments marking the location of corners pertaining to the system. The contract specified nine such monument locations where the contractor was instructed by the County Surveyor as to what type of work was to be performed and the specifications that were to be followed. After completion of such work, the County Surveyor performed an inspection of the monument installations, all of which were found to be in compliance with the specifications governing the work. Payment was made to the contractor in the amount of \$16,122.06 on October 6, 2017. This amount constituted 19.4 percent of the total cost of the County Surveyor services, thus exceeding the goal established by Milwaukee County for the participation of a disadvantaged business enterprise in this regard.

Pursuant to State Statutes, Professional Land Surveyors must provide copies of all plats of surveys other than land subdivision plats and certified survey maps conducted within the County to the Office of the County Surveyor for filing. Through December 31, 2017, the County Surveyor received, indexed, and filed 1,078 copies of new land surveys completed in 2017 within the County, bringing the total number of records of land surveys completed within the County, which have been filed with the County Surveyor since the inception of this work in 1984, to 100,291. The filed records are indexed to permit retrieval by name of the surveyor concerned, the property owner concerned, the address of the property concerned, if shown on the plat, the date of the survey plat, the civil division, and the U.S. Public Land Survey Township and Range, and Section and one-quarter section within which the plat is located.

In 2012, the County Surveyor assisted staff in the coordination of an annual program to update the Milwaukee County website in order to incorporate the copies of new land surveys received during the year and those to be received in subsequent years. In 2017, the Land Information Officer staff produced digital scans of 1,078 hardcopies, and merged the new files with the existing files to create a total of 100,291 plats of survey that have been filed with the County Surveyor as of December 31, 2017. The purpose and intent of this project was to create a single digital database from the separate databases maintained by the Office

of the County Surveyor and the Milwaukee County Land Information Office to allow the digital images of the plats of survey to be accessed by the public through the Milwaukee County Interactive Map website.

Also in 2017, Milwaukee County under a separate agreement with the Commission converted the State Plane Coordinate positions of all 1,134 USPLSS or System corners within the County from the legacy datum of the North American Datum of 1927 (NAD27) to the new datum of North American Datum of 1983 with the National readjustment of 2011 (NAD83(2011)). This conversion was submitted to the County in August 2017 and completed by the procedures set forth in Appendix C of the SEWRPC Addendum Memorandum Report No. 206, *Revised Estimate of the Costs of Converting the Legacy Datums within the Region to the New National Datums*. The results of this conversion concluded that the horizontal datum conversion procedures developed by the Commission staff provided an accurate and cost-effective technique supporting the conversion of the legacy horizontal datum in use within the Region to the presently promulgated Federal datum – NAD83(2011). Independent field observation demonstrated that the converted State Plane Coordinate positions of the monumented County survey control network met Third Order, Class I Standards—providing linear distance closures of 1 part in 10,000 or better and the results of these independent observations demonstrated a root mean square error (RMSE) of 0.096 feet for the northing values and 0.095 feet for the easting values. The results from this conversion can be found in SEWRPC Technical Report No. 53, *Conversion of Horizontal Survey Control Network in Milwaukee County from Legacy Datum to New Federal Datum*. In accordance with this agreement a revised copy of the “Record of U.S. Public Land Survey Control Stations” – so called dossier sheet – for each of the 1,134 survey control stations containing dual coordinates – NAD27 and NAD83(2011) datums. Also, new set of six section survey control summary diagrams covering the County. A total of 47 new diagrams showing the monumented U.S. Public Land Survey System corners, the State Plane Coordinates of those corners referred to NAD83(2011), the grid and ground level lengths of the quarter-section lines, the interior angles of the quarter-sections, the bearings of the quarter-section lines, and ground level area of the quarter-sections.

* * *

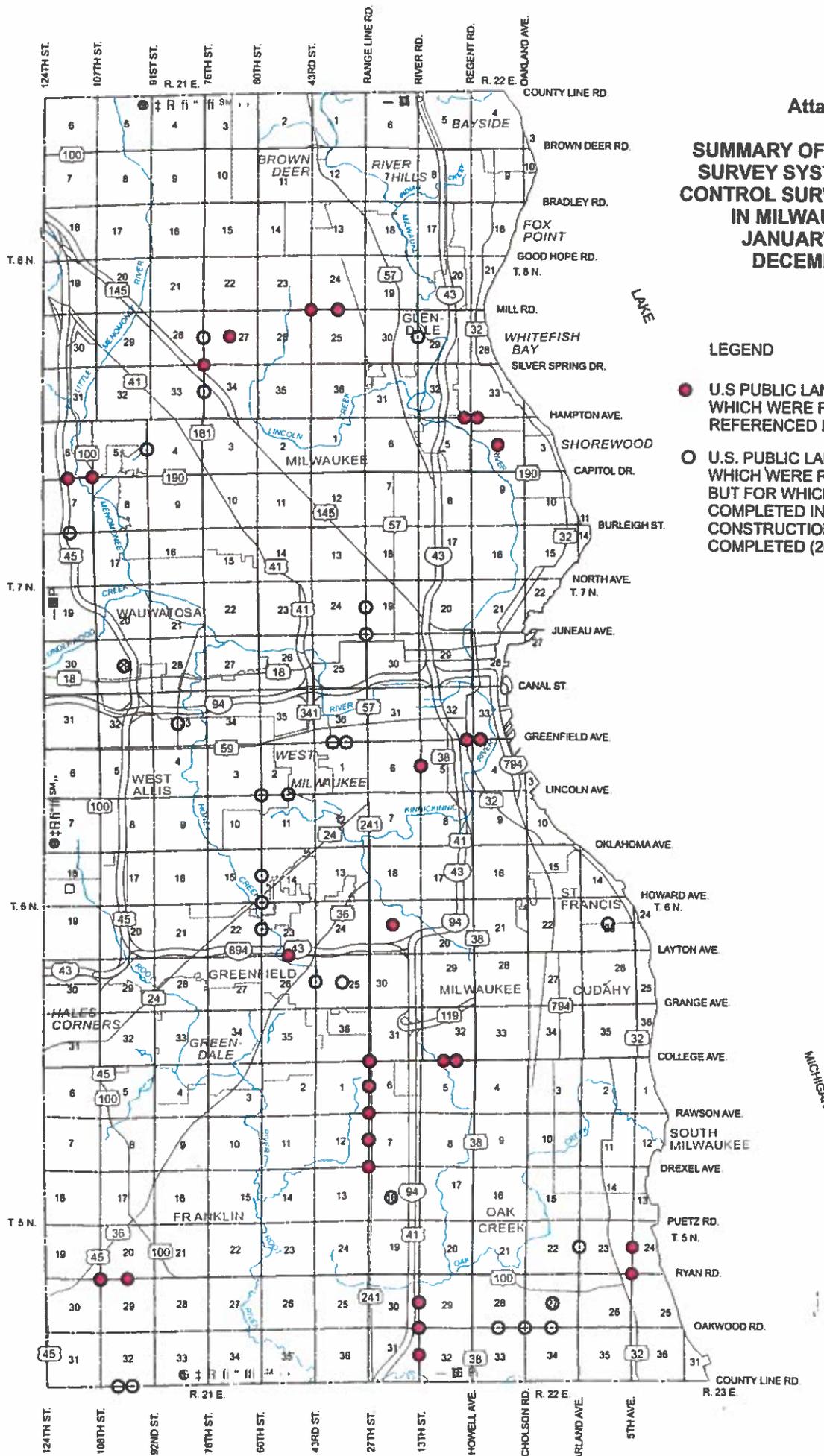
RWM/dd
Milwaukee County Surveyor Activities 2017 (00240464).DOC

Attachments

cc: Ms. Marcia G. Cornell, Manager Central Drafting and Records, City of Milwaukee
Mr. Gregory G. High, Director, Architectural, Engineering and Environmental Services,
Milwaukee County
Mr. Daniel R. Talarczyk, Survey Services Supervisor, Milwaukee Metropolitan Sewerage District
Ms. Mary Dziejwiontkoski, Project Programming, City of Milwaukee

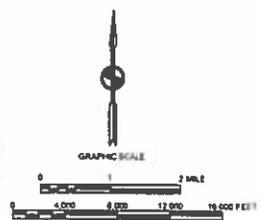
Attachment 1

SUMMARY OF U.S. PUBLIC LAND SURVEY SYSTEM CORNER AND CONTROL SURVEY PERPETUATION IN MILWAUKEE COUNTY: JANUARY 1 THROUGH DECEMBER 31, 2017



LEGEND

- U.S. PUBLIC LAND SURVEY CORNERS WHICH WERE REMONUMENTED AND/OR REFERENCED IN 2017 (28)
- U.S. PUBLIC LAND SURVEY CORNERS WHICH WERE REMONUMENTED IN 2017 BUT FOR WHICH REFERENCING WILL BE COMPLETED IN 2018 DUE TO CONSTRUCTION PROJECTS NOT FULLY COMPLETED (26)



Source: SEWRPC.



Wisconsin Land Information Program County Retained Fee/Grant Report

Instructions:

If your county has accepted a grant under s. 16.967(7) WIS STATS or retained any fees under s.59.72 (5) WIS STATS, submission of this report to the Wisconsin Department of Administration, Division of Intergovernmental Relations is required by June 30th of the following year in accordance with s. 59.72(2)(b) WIS STATS.

County Milwaukee	County FIPS 079	Recording Period:		
		From	Jan. 1, 2017	To
			Dec. 31, 2017	
Name of Land Information Officer Kevin Bruhn		Email Address kevin.bruhn@Milwaukeecountywi.gov		Phone Number 414-278-3927

1. Amount awarded in WLIP grants under s. 16.967(7) Wis. Stats. in the reporting period (Jan. 1 – Dec. 31, 2017)	\$ 51,000.00
2. Amount of document recording fees retained under s. 59.72(5) Wis. Stats. for land information in the reporting period at \$8 per document (Jan. 1 – Dec. 31, 2017)	\$ 833,488.00
3. Total amount of grants and retained fees provided through the WLIP in 2017	\$ 884,488.00

Brief narrative or bulleted summary of 2017 land information activities, including relevant web-links:
<ul style="list-style-type: none"> • Orthophotography/Oblique Contract for services. • Cadastral updates for all 19 municipalities of Milwaukee County. • Quarterly aggregation and compilation of address and cadastral mapping updates, maintained by Milwaukee County and the City of Milwaukee, data is made available on public website. • Facilitated the 16th Milwaukee Municipal GIS Users Group (MMGUG) Meeting, September 27th • Conducted June, and December Land Information Council Meetings. • Georeferenced 1910 Sanborn mapping • Integration of eRTR DOR data with Fidlar parcel ownership information for published quarterly updates. • Horizontal Datum Migration from NAD27 to NAD83 • Data and service migration from NAD27 to NAD83 • GIS Infrastructure moved to hosted (Cloud Managed) environment – (oneneck IT Solutions)

**Wisconsin Land Information Program
County Retained Fee/Grant Report – Continued**

Land Info Spending Category ▼	Project Description(s) Expand the height of rows if you have multiple projects in a Spending Category. Row height will automatically expand as you type. Do not delete rows. Add rows only for "Other."	Land Info Plan Citations Page number or section reference	Project Cost Note unit cost and project total for each project	Total Cost for Spending Category (ONE total per Spending Category)
Digital Parcel Mapping	Cadastral Maintenance: All 19 Municipalities	LRM: 2015, II.P7	\$66,833.32	\$66,822.32
PLSS	Milwaukee County Surveyor Services Horizontal Datum Modernization – NAD 83	LRM: 2015, II.P6	\$82,916 \$33,396 (SEWRPC)	116,312
Other Parcel Work (e.g., ROD indexing)	Plat of Survey parcel index maintenance	LRM: 2015, II. P8	1,078 Platt Scans @ \$.33 per	\$355.74
LIDAR	LP360 Software Renewal	LRM: 2015, II. P9	\$936.28	\$936.28
Orthoimagery	2018 3" Ortho/Oblique Imagery 2017 Pictometry License	LRM: 2015, II. P10	\$137,286 \$3,037.50	\$140,323.50
Address Points	Enterprise Address System	LRM: 2015, II. P10-11	.25 FTE In house	\$17,718
Street Centerlines	Street Centerline Maintenance	LRM: 2015, II. P10-11	.25 FTE In house	\$17,718
Software	Latitude Geographics GeoCortex ESRI Bluecoat Proxy maintenance Geocue - Blue Marble	LRM: 2015, III. P18	\$3,700 Latitude \$25,803 ESRI \$1,275 Bluecoat \$449.10 BlueMarble	\$31,227.10
Hardware	MCLIO Infrastructure Administration, Infrastructure and Hardware purchases Including Cross Charge	LRM: 2015, III. P17-19	\$82,522 1 FTE \$13,220.96 Charges \$2,405.61 Hardware	\$103,412.57
Website Development/ Hosting Services	LIO Website support, GIS Website support - HTML5	LRM: 2015, IV. P20	\$70,872 .5 FTE	\$35,436
Administrative Activities and Management	Milwaukee County Land Information Office (MCLIO) Operations and Project Management, Fiscal Management & Staffing, Data Requests, Dept Admin, legacy costs and overhead costs	LRM: 2015, III. P17-19	\$102,426 1 FTE \$1,351.63 Supplies \$22,098.96 Admin \$107,795 Legacy	\$233,671.59
Training and Education	esri User Conference, esri Developers Summit, WLIA Annual and Regional	LRM: 2015, III. P17-19	\$1,481.15 WLIA \$3,256.55 esri UC \$2,016.87 esri Dev	\$6,754.57
Other (specify in second column)				0.00
TOTAL				\$ 770,687.67
Amount of retained fees and grants spent on land records modernization in the reporting period Total may be more or less than the amount of grants awarded and fees retained in 2017 (if carried over from year to year)				
Amount of retained fees and grants carried forward to calendar year 2018 from previous years				\$ 1,604,412

Milwaukee County Land Information Plan 2019-2021

DRAFT

Wisconsin Land Information Program
Wisconsin Department of Administration
101 East Wilson Street, 9th Floor
Madison, WI 53703
(608) 267-3369
www.doa.wi.gov/WLIP

Version: 2018-05-30

Approved/Adopted by Land Information Council on 2018-**-**

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EXECUTIVE SUMMARY

About this Document. This document is a land information plan for Milwaukee County prepared by the land information officer (LIO) and the Milwaukee County land information council. Under state statute 59.72(3)(b), a “countywide plan for land records modernization” is required for participation in the Wisconsin Land Information Program (WLIP). The purpose of this document is twofold: 1) to meet WLIP funding eligibility requirements necessary for receiving grants and retaining fees for land information, and 2) to plan for county land records modernization in order to improve the efficiency of government and provide improved government services to businesses and county residents.

WLIP Background. The WLIP, administered by the Wisconsin Department of Administration, is funded by document recording fees collected by register of deeds at the county-level. In 2017, Milwaukee County was awarded \$51,000 in WLIP grants and retained a total of \$833,488 in local register of deeds document recording fees for land information.

Land Information in Milwaukee County. Land information is central to county operations, as many essential services rely on accurate and up-to-date geospatial data and land records. A countywide land information system supports economic development, emergency planning and response, and a host of other citizen services. The Milwaukee County land information system integrates and enables efficient access to information that describes the physical characteristics of land, as well as the property boundaries and rights attributable to landowners.

Mission of the Land Information Office.

The Milwaukee County Land Information Office provides leadership, expertise, communication, coordination, and relevant services to support the core business functions of the County in an effort to increase operational effectiveness, ensure GIS data integrity, and to oversee the distribution and alignment of reliable, accurate, high-quality, and accessible GIS data and products with the needs of our constituents.

Land Information Office Projects. To realize this mission, in the next three years, the county land information office will focus on the following projects:

Milwaukee County Land Information Projects: 2019-2021	
Project #1	Planimetric Data Update
Project #2	Support New Datum Requirements
Project #3	Plat of Survey Maintenance
Project #4	Enterprise Address System Maintenance
Project #5	Street Centerline Maintenance
Project #6	Cadastral Improvements
Project #7	2020 Imagery Capture
Project #8	2020 Lidar Capture
Project #9	2021 Planimetric Update
Project #10	Implement esri Parcel Fabric Model

The remainder of this document provides more details on Milwaukee County and the WLIP, summarizes current and future land information projects, and reviews the county’s status in completion and maintenance of the map data layers known as Foundational Elements.

1 INTRODUCTION

In 1989, a public funding mechanism was created whereby a portion of county register of deeds document recording fees collected from real estate transactions would be devoted to land information through a new program called the Wisconsin Land Information Program (WLIP). The purpose of the land information plan is to meet WLIP requirements and aid in county planning for land records modernization.

The WLIP and the Land Information Plan Requirement

In order to participate in the WLIP, counties must meet certain requirements:

- Update the county's land information plan at least every three years
- Meet with the county land information council to review expenditures, policies, and priorities of the land information office at least once per year
- Report on expenditure activities each year
- Submit detailed applications for WLIP grants
- Complete the annual WLIP survey
- Subscribe to DOA's land information listserv
- Coordinate the sharing of parcel/tax roll data with the Department of Administration in a searchable format determined by DOA under s. 59.72(2)(a)

LAND INFORMATION

Any physical, legal, economic or environmental information or characteristics concerning land, water, groundwater, subsurface resources or air in this state.

'Land information' includes information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restrictions, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites and economic projections.

– Wis. Stats. section 59.72(1)(a)

Any grants received and fees retained for land information through the WLIP must be spent consistent with the county land information plan.

Act 20 and the Statewide Parcel Map Initiative

A major development for the WLIP occurred in 2013 through the state budget bill, known as Act 20. It directed the Department of Administration (DOA) to create a statewide digital parcel map in coordination with counties.

Act 20 also provided more revenue for WLIP grants, specifically for the improvement of local parcel datasets. The WLIP is dedicated to helping counties meet the goals of Act 20 and has made funding available to counties in the form of Strategic Initiative grants to be prioritized for the purposes of parcel/tax roll dataset improvement.

For Strategic Initiative grant eligibility, counties are required to apply WLIP funding toward achieving certain statewide objectives, specified in the form of "benchmarks." Benchmarks for parcel data—standards or achievement levels on data quality or completeness—were determined through a participatory planning process. Current benchmarks are detailed in the WLIP grant application, as will be future benchmarks.

WLIP Benchmarks (For 2016-2018 Grant Years)

- Benchmark 1 & 2 – Parcel and Zoning Data Submission/Extended Parcel Attribute Set Submission

- Benchmark 3 – Completion of County Parcel Fabric
- Benchmark 4 – Completion and Integration of PLSS

More information on how Milwaukee County is meeting these benchmarks appears in the Foundational Elements section of this plan document.

County Land Information System History and Context

On February 15, 1990, the Milwaukee County Board of Supervisors adopted the Southeastern Wisconsin Regional Planning Commission's (SEWRPC) Community Assistance Planning Report No. 177, Feasibility Study for a Milwaukee County Automated Mapping and Land Information System (hereinafter referred to as the "plan"). A 2010 plan update expanded and extended the original plan; this 2018 plan update builds upon the foundation which was put in place over 25 years ago.

The Milwaukee County plan, as originally adopted by the County Board, is believed to be unique within Wisconsin in that it created a public-private partnership that would jointly fund and develop the automated mapping system. Accordingly, a cooperative agreement was executed in November 1990, establishing the Milwaukee County Automated Mapping and Land Information System, known by the acronym MCAMLIS. Milwaukee County, the Milwaukee Metropolitan Sewerage District, Wisconsin Bell Telephone Company, the Wisconsin Electric Power Company, and the Wisconsin Gas Company all executed the agreement. The agreement provided for the creation of a Steering Committee with representatives from the County and City of Milwaukee, the suburban cities and villages within Milwaukee County, the Milwaukee Metropolitan Sewerage District, and the private utilities operating within the County.

The Milwaukee County Land Information Office (MCLIO) was created in 2005 as a result of Milwaukee County Resolution 90-707(a) mandating the Milwaukee County Automated Mapping and Land Information System (MCAMLIS) Program in Milwaukee County. The MCLIO has become the de-facto county entity to manage countywide geospatial data and services, and to coordinate these activities with other organizations to provide efficient and effective means to access and administer the county's geospatial data and services.

MCLIO is organized within the County's Department of Administrative Services – Division of Facilities Management. The MCLIO provides several key services to state, federal, county and municipal government, citizens, and the geospatial professional community.

County Land Information Plan Process

County land information plans were initially updated every five years. However, as a result of Act 20, counties must update and submit their plans to DOA for approval every three years. The 2019-2021 plan, completed at the end of 2018, is the second post-Act 20 required update.

Plan Participants and Contact Information

Another requirement for participation in the WLIP is the county land information council, established by legislation in 2010. The council is tasked with reviewing the priorities, needs, policies, and expenditures of a land information office and advising the county on matters affecting that office.

According to s. 59.72(3m), Wis. Stats., the county land information council is to include:

- Register of Deeds
- Treasurer
- Real Property Lister or designee
- Member of the county board
- Representative of the land information office

- A realtor or member of the Realtors Association employed within the county
- A public safety or emergency communications representative employed within the county
- County surveyor or a registered professional land surveyor employed within the county
- Other members of the board or public that the board designates

The land information council must have a role in the development of the county land information plan, and DOA requires county land information councils to approve final plans.

This plan was prepared by the county LIO, the Milwaukee County Land Information Council, and others as listed below.

Milwaukee County Land Information Council and Plan Workgroup				
Name	Title	Affiliation	Email	Phone
+ Kathy Bach for John LaFave – Register of Deeds	GIS Analyst	Milwaukee County Register of Deeds	Kathleen.Bach@milwaukeecountywi.gov	414-278-3027
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+ Supervisor Jason Hass	County Board Member	Milwaukee County County Board	Jason.Haas@milwaukeecountywi.gov	414-278-4252
+ Kevin Bruhn	Land Information Officer	Milwaukee County Land Information Office	Kevin.Bruhn@milwaukeecountywi.gov	414-278-3927
+ Christine Westrich	Director of Emergency Management	Milwaukee County Emergency Management	Christine.Westrich@milwaukeecountywi.gov	414-226-7303
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+ Emily Champagne	GIS Supervisor	Milwaukee Metropolitan Sewerage District	EChampagne@mmsd.com	414-225-2180
+ Dawn Neuy	Manager of EDAM Support	We Energies	Dawn.Neuy@we-energies.com	414-221-4783
+ ICC Rep	ICC Rep	ICC Rep		

+ Land Information Council Members designated by the plus symbol

2 FOUNDATIONAL ELEMENTS

Counties must have a land information plan that addresses development of specific datasets or map layer groupings historically referred to as the WLIP Foundational Elements. Foundational Elements incorporate nationally-recognized "Framework Data" elements, the major map data themes that serve as the backbone required to conduct most mapping and geospatial analysis.

In the past, Foundational Elements were selected by the former Wisconsin Land Information Board under the guiding idea that program success is dependent upon a focus for program activities. Thus, this plan places priority on certain elements, which must be addressed in order for a county land information plan to be approved. Beyond the county's use for planning purposes, Foundational Element information is of value to state agencies and the WLIP to understand progress in completion and maintenance of these key map data layers.

FOUNDATIONAL ELEMENTS

- PLSS
- Parcel Mapping
- LIDAR and Other Elevation Data
- Orthoimagery
- Address Points and Street Centerlines
- Land Use
- Zoning
- Administrative Boundaries
- Other Layers

PLSS

Public Land Survey System Monuments

Layer Status

PLSS Layer Status	
	Status/Comments
Number of PLSS corners (selection, ¼, meander) set in original government survey that can be remonumented in your county	<ul style="list-style-type: none"> 801 (1,065 if one would include center of section, closing corners on quarter- section lines, extension corner, and meander corners on quarter-section lines which are not part of the original government survey)
Number and percent of PLSS corners capable of being remonumented in your county that have been remonumented	<ul style="list-style-type: none"> 801, 100%
Number and percent of remonumented PLSS corners with survey grade coordinates (see below for definition) <ul style="list-style-type: none"> SURVEY GRADE – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision SUB-METER – point precision of 1 meter or better APPROXIMATE – point precision within 5 meters or coordinates derived from public records or other relevant information 	<ul style="list-style-type: none"> 801, 100% 1,065, 100% of all monumented corners original or not have established survey grade coordinates.
Number and percent of survey grade PLSS corners integrated into county digital parcel layer	<ul style="list-style-type: none"> 1,065, 100%
Number and percent of non-survey grade PLSS corners integrated into county digital parcel layer	<ul style="list-style-type: none"> 0, 0%
Tie sheets available online?	<ul style="list-style-type: none"> Yes, NAD83/2011 and NAD27 - https://maps.sco.wisc.edu/surveycontrolfinder/#7/44.730/-90.143/NGS,county,USGS,CORS/terrain Yes, NAD27 only - http://maps.sewrpc.org/regionallandinfo/survey.sh tm
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values)	<ul style="list-style-type: none"> 100%
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values) and a corresponding URL path/hyperlink value in the PLSS geodatabase	<ul style="list-style-type: none"> 100%
PLSS corners believed to be remonumented based on filed tie-sheets or surveys, but do not have coordinate values	<ul style="list-style-type: none"> 0
Approximate number of PLSS corners believed to be lost or obliterated	<ul style="list-style-type: none"> 0
Which system(s) for corner point identification/ numbering does the county employ (e.g., the Romportl point numbering system known as Wisconsin Corner Point Identification System, the BLM Point ID Standard, or other corner point ID system)?	<ul style="list-style-type: none"> Corner identification is as follows: <ul style="list-style-type: none"> XXYYZZZ0 XX – Township YY – Range ZZZ0 – There are a possible 169 corners within a given township with the Northeast corner of Section 1 being 0010 with the SW of 31 which could be again be 0010 (NE of Section 1) or if outside of the Region the number be 1690. The forth digit “0” would allocate if there are witness/meander corners. If there are witness/meader corners the value of 1 would be for the witness/meander corner that is to the north of the actual corner location, 2 would be to the east, 3 would to the south, and 4 to the west.

	<ul style="list-style-type: none"> • USPLSS corners from adjacent range lines would number from the east line of the western Township. If common corners from the adjacent town lines would number the North line of the southern Township. • Attached is an index for the number of specific corners.
Does the county contain any non-PLSS areas (e.g., river frontage long lots, French land claims, private claims, farm lots, French long lots, etc.) or any special situations regarding PLSS data for tribal lands?	<ul style="list-style-type: none"> • No
Total number of PLSS corners along each bordering county	<ul style="list-style-type: none"> • Racine – 26; Waukesha – 49; Ozaukee – 19
Number and percent of PLSS corners remonumented along each county boundary	<ul style="list-style-type: none"> • Racine – 26, 100%; Waukesha – 49, 100%; Ozaukee – 19, 100%
Number and percent of remonumented PLSS corners along each county boundary with survey grade coordinates	<ul style="list-style-type: none"> • Racine – 26, 100%; Waukesha – 49, 100%; Ozaukee – 19, 100%
In what ways does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	<ul style="list-style-type: none"> • All USPLSS corners in the SE Region are shared and supported from one site

Custodian

Southeastern Wisconsin Regional Planning Commission (SEWRPC)

Maintenance

The MCLIO will continue to work with the Commission and the County Surveyor, to perpetuate the U. S. Public Land Survey system within the County and maintain the attendant control survey network. The designation of areas to be remapped will be determined by the Milwaukee County Land Information Steering Committee.

Standards

- Statutory Standards for PLSS Corner Remonumentation
 - s. 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
 - s. 60.84, Wis. Stats. Monuments.
 - ch. A-E 7.08, Wis. Admin. Code, U.S. public land survey monument record.
 - ch. A-E 7.06, Wis. Admin. Code, Measurements.
 - s. 236.15, Wis. Stats. Surveying requirement.
- SURVEY GRADE standard from Wisconsin County Surveyor’s Association:
 - **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision
 - **SUB-METER** – point precision of 1 meter or better
 - **APPROXIMATE** – point precision within 5 meters or coordinates derived from public records or other relevant information

The horizontal control surveys meet or exceed the specifications for Third-Order, Class I, accuracy standards as established by the National Geodetic Survey. Elevations were established for all of the monumented U. S. Public Land Survey system corners and for ancillary reference benchmarks. The vertical control survey network so created was based upon the National Geodetic Vertical Datum, 1929 adjustment. All level surveys conducted met or exceeded the specifications for Second-Order, Class II, accuracy standards as established by the National Geodetic Survey.

Other Geodetic Control and Control Networks

e.g., HARN, Height Mod., etc.

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

Parcel Mapping

Parcel Geometries

Layer Status

- Milwaukee County has completed parcel mapping of all the municipalities and villages in Milwaukee County and continues to take high priority in maintaining all of the Cadastral Layers.
- The county's parcels are available in a downloadable Esri geodatabase and are viewable on our Interactive Map Site that is published quarterly.
- All Milwaukee County data is referenced to the Wisconsin South State Plane coordinate system, datum of 1983 (NAD83).
- We reference all parcels to the public land survey system (PLSS) and maintain Tax Parcel Maps. The tax parcels are derived from information obtained in the Tax Listing Section of the Milwaukee County Register of Deeds Office and the City of Milwaukee Assessor's Office. All parcels are developed using legal information including recorded deeds, Certified Survey Maps, and Subdivision Plats and non-recorded data such as right-of way plats. In some cases, recorded information is not always available and erroneous data may be recorded. For this reason, tax parcels are intended to accurately represent the land but it is not a substitute for a legal land survey or guarantee of title. Updates and Corrections are part of daily protocol and historical parcel information is maintained and archived.
- **Projection and coordinate system:** WKID 6609
- **Integration of tax data with parcel polygons:** The County does have a parcel polygon model that directly integrates tax/assessment data as parcel attributes.
- **Esri Parcel Fabric/LGIM Data Model:** The County does not use but plans to explore implementing the Esri Parcel Fabric Data Model, and/or Esri's Local Government Information Model.
- **Online Parcel Viewer Software/App and Vendor name:** In-house built Geocortex Essentials and Esri Web AppBuilder for ArcGIS
- **Unique URL path for each parcel record:**
<https://lio.milwaukeecountywi.gov/Html5Viewer/index.html?viewer=MCLIO-Map&TaxKey=3450291000>

Custodian

- Milwaukee County Land Information Office

Maintenance

- **Update Frequency/Cycle.** Parcel polygons are updated quarterly.
- The cadastral are updated daily and are published on quarterly basis to the MCLIO website. Parcel changes are based on recorded documents and tax listing changes in the ROD office & City of Milwaukee Assessor's Office.

Standards

- A data dictionary in human-readable form, with thorough definitions for each element/attribute name, and explanations of any county-specific notations, particularly for parcel attributes listed by s. 59.72(2)(a), is in progress.
- The digital cadastral data sets were compiled to a digital framework meeting National Map Accuracy Standards (NMAS) for one-inch-equals-100-feet-scale mapping. The cadastral features (subject to possible errors and omissions) can be considered to be positionally accurate to within 3.3 feet of their true position on the ground for all features included as part of the cadastral basemap fabric.

Assessment/Tax Roll Data

Layer Status

- **Progress toward completion/maintenance phase:** NA
- **Tax Roll Software/App and Vendor name:** Property Assessment & Tax Billing Module – GCS Software
- **Municipal Notes:** City of Milwaukee has separate tax listing. All 19 municipalities of Milwaukee County maintain and submit separate tax rolls.

Custodian

- Regarding assessment information in Milwaukee County, each community is responsible for storage and retrieval of their tax roll information through their own Assessors Office; the procedure may vary per office.

Maintenance

- Each community in Milwaukee County is responsible for editing and maintaining their own tax assessment information through their own Assessors Office; the procedure may vary per office. In the suburbs, the Milwaukee County Register of Deeds Tax Listing section assists the Assessor's Offices in preparing tax roll descriptions and maintaining ownership records.
- Milwaukee County maintains parcel/tax roll data in the Searchable Format or close enough to the Searchable Format that **little to no human labor is required** for the annual submission of parcel/tax roll data to DOA

Standards

- Wisconsin Department of Revenue Property Assessment Manual and attendant DOR standards
- DOR XML format standard requested by DOR for assessment/tax roll data

Non-Assessment/Tax Information Tied to Parcels

e.g., Permits, Easements, Non-Metallic Mining, Brownfields, Restrictive Covenants

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

ROD Real Estate Document Indexing and Imaging

Layer Status

- **Grantor/Grantee Index:** Milwaukee County Register of Deeds Office started a Grantor/Grantee index in 1839. The names were first written in a ledger that tracked the names of the parties transferring the property and recording information such as Volume & Page and date of the document. The manual process was maintained until February 1, 1988 when it was replaced by a Land Records Management computer system.
- **Tract Index:** Milwaukee County Register of Deeds Office created a Tract Index system January 1, 1876. The tract index is based on the Public Land Survey system, which indexes documents by Quarter Section, Section, Town and Range. In addition, they maintain a tract index for Subdivisions. The Subdivision index includes the Subdivision name, blocks, and lots. Examples

of documents that are being tract include Warranty Deeds, Quit Claim Deeds, Mortgagees, Plats, Certified Survey Map, Government Liens, Easements, etc.

- **Imaging:** Milwaukee County Register of Deeds office started imaging recorded documents January 1, 2000 in their Land Records Management computer system. On March 1, 2010, Subdivision Plats, ¼ Section maps, Milwaukee Block maps, Indexes, were also scanned and entered into the computer system. The ROD continues to add historical document back to 1910.
- **ROD Software/App and Vendor Name:** GCS Web Portal from GCS and Laredo/Tapestry from Fidar

Custodian

- Milwaukee County Register of Deeds

Maintenance

- The Milwaukee County Register of deeds continues to maintain the Grantor/Grantee Index and the Tract Index in a Land Records Management computer system and the currency of the indexes usually runs about 2 week behind the recording date. As well, the Register of Deeds Office continues to make great strides in improving the efficiency of the computer-based system by adding scanned historical documents which are back-indexed and verified.

Standards

- s. 59.43, Wis. Stats. Register of deeds; duties, fees, deputies.
- ch. 706, Wis. Stats. Conveyances of real property; Recording; Titles.

LiDAR and Other Elevation Data

LiDAR

Layer Status

- **Most recent acquisition year:** 2015
- **Accuracy:** See Below
- **Post spacing:** .7
- **Contractor's standard, etc.:** The LiDAR flight captured by Quantum Spatial in 2015 had a specification of a QL2 level or 2 points per meter.
- **Next planned acquisition year:** 2020

Custodian

- Milwaukee County

Maintenance

- In general, the MCLIO plans to acquire updated LiDAR data every 5 years.

Standards

- The Horizontal RMSE at the 95% confidence level is 0.017 ft.
- The Elevation RMSE at the 95% confidence level is 0.011 ft.
- The 3-Dimensional RMSE at the 95% confidence level is 0.020 ft.

LiDAR Derivatives

e.g., **Bare-Earth Digital Terrain Model (DTM), Bare-Earth Elevation Contours, Bare-Earth Digital Elevation Model (DEM), Digital Surface Model (DSM), etc.**

Layer Status

- Digital Elevation Model (DEM), Smoothed DEM, Hillshaded DEM
- Digital Surface Model, Hillshaded Digital Surface Model, Height Above Ground Digital Surface Model, Shaded LiDAR Digital Surface Model
- Slope Model in Percent Rise, Slope Model in Degrees

- LiDAR Return Intensity

Custodian

- Milwaukee County

Maintenance

- When needed

Standards

- Processed from LP360

Other Types of Elevation Data

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

Orthoimagery

Orthoimagery

Layer Status

- **Most recent acquisition year:** 2018
- **Resolution:** 3"
- **Contractor's standard:**
 3-inch GSD AccuPlus ortho mosaic tiles (GeoTIFF format), 3-inch GSD oblique frame images (4-way), 3-inch GSD orthogonal frame images, 3-inch GSD area-wide ortho mosaic (ECW format), 1-meter GSD ortho mosaic sector tiles and one area-wide 1-meter GSD mosaic (ECW format). Orthogonal GSD: 0.25 feet/pixel; Nominal Oblique GSD (all values +/-10%): Front Line: 0.24 feet/pixel, Middle Line: 0.28 feet/pixel, Back Line: 0.34 feet/pixel. Ortho-mosaic accuracy: 0.75 ft. RMSE (X or Y); 1.84 ft NSSDA 95%; meets or exceeds ASPRS Class 1 (1990) at 1"=100'; NMAS Class 1 at 1"=50'.
- **Next planned acquisition year:** 2020
- **WROC participation in 2020:** No

Custodian

- Milwaukee County

Maintenance

- In general, the MCLIO has acquired new orthophotography every 5 years beginning in 1995, but has begun increasing the update frequency to every 2 to 3 years.

Standards

- Standards are coordinated by SEWRPC and the LIO of adjoining counties.

Historic Orthoimagery

Layer Status

- MCLIO staff had obtained variously dated un-rectified or poorly rectified digital datasets from UW Milwaukee AGS Library and UW Madison, Arthur Robinson Library. When necessary, these data were geo-rectified, mosaicked, and published as map and image services, with the final imagery completed in October 2015. Imagery from the following years is now available with full or partial-county coverage: 1928, 1937, 1951, 1956, 1958, 1961, 1963, 1966, 1967, 1970, 1975, 1976, 1980, 1985, 1995, 2000, 2004, 2005, 2007, 2008, 2009, 2010, 2013, 2015

Custodian

- Milwaukee County

Maintenance

- The MCLIO will rectify and mosaic historical imagery on an as-needed basis.

Standards

- Standards vary with respect to the time the imagery was acquired and the technology available at that time

Other Types of Imagery

e.g., **Oblique Imagery, Satellite Imagery, Infra-red, etc.**

Layer Status

- 2008, 2010, 2013, 2015, 2018 - 3 inch obliques

Custodian

- Pictometry\Eagle View

Maintenance

- Collected with Orthoimagery

Standards

- 3-inch GSD AccuPlus ortho mosaic tiles (GeoTIFF format), 3-inch GSD oblique frame images (4-way), 3-inch GSD orthogonal frame images, 3-inch GSD area-wide ortho mosaic (ECW format), 1-meter GSD ortho mosaic sector tiles and one area-wide 1-meter GSD mosaic (ECW format). Orthogonal GSD: 0.25 feet/pixel; Nominal Oblique GSD (all values +/-10%): Front Line: 0.24 feet/pixel, Middle Line: 0.28 feet/pixel, Back Line: 0.34 feet/pixel. Ortho-mosaic accuracy: 0.75 ft. RMSE (X or Y); 1.84 ft NSSDA 95%; meets or exceeds ASPRS Class 1 (1990) at 1"=100'; NMAS Class 1 at 1"=50'.

Address Points and Street Centerlines

Address Point Data

Layer Status

- The MCLIO Address Database program work effort is maintained as the Enterprise Address System whereby street, parcel, building and unit addresses are fully integrated across the entire county. This project is currently in a maintenance cycle and published quarterly in concert with the cadaster update.

Custodian

- Milwaukee County

Maintenance

- All cadastral data is updated as changes occur, and released on a quarterly schedule. The address are updated based on information from the municipalities or recorded information in the Register of Deeds Office.

Standards

- Table views that pick out QC errors.

Building Footprints

Layer Status

- Building footprint data is available as part of the MCLIO Planimetric datasets, as a stand-alone feature layer, or as part of the MCLIO Interactive Map.

Custodian

- Milwaukee County

Maintenance

- The exception to quarterly cadastral updates, building footprints are updated annually or when the planimetric datasets have been updated/replaced.

Standards

- The MCLIO Planimetric datasets were compiled to a digital framework meeting National Map Accuracy Standards (NMAS) for one-inch-equals-100-feet-scale mapping.

Other Types of Address Information

e.g., Address Ranges

Layer Status

- Address ranges are part of the attributes in the centerlines

Custodian

- Milwaukee County

Maintenance

- When Needed

Standards

- Table views that pick out QC errors.

Street Centerlines

Layer Status

- Street Centerlines are maintained as part of the MCLIO Cadastral and Topographic datasets.

Custodian

- Milwaukee County

Maintenance

- The street centerlines are updated based on information from the municipalities or recorded information in the Register of Deeds Office.

Standards

- The MCLIO Topographic datasets were compiled to a digital framework meeting National Map Accuracy Standards (NMAS) for one-inch-equals-100-feet-scale mapping.

Rights of Way

Layer Status

- Street Centerlines are maintained as part of the MCLIO Cadastral and Topographic datasets.

Custodian

- Milwaukee County

Maintenance

- The street centerlines are updated based on information from the municipalities or recorded information in the Register of Deeds Office.

Standards

- The MCLIO Topographic datasets were compiled to a digital framework meeting National Map Accuracy Standards (NMAS) for one-inch-equals-100-feet-scale mapping.

Trails

e.g., Recreational Trails

Layer Status

- The Milwaukee County trails are updated to 2017.

Custodian

- Milwaukee County Parks

Maintenance

- Updates are done when needed

Standards

- Trails are digitized from aerial photography.

Land Use

Current Land Use

Layer Status

- The MCLIO utilizes polygonal land use data as provided by the Southeastern Wisconsin Regional Planning Commission (SEWRPC). The polygons are digitized from aerial photography according to SEWRPC's land use classification system. The polygon features are current for the year 2010.

Custodian

- Southeastern Wisconsin Regional Planning Commission, Land Use Division and GIS Division

Maintenance

- The land use polygon features are digitized from aerial photography and are expected to be updated every 5 years.

Standards

- SEWRPC, designated as the official area-wide regional planning agency, abides by s. 66.1001, Wis. Stats. Static Land Use Plan maps are available from SEWRPC's website.

Future Land Use

Layer Status

- Milwaukee County does not maintain in-house data or reports for future land-use; rather, SEWRPC has the responsibility of developing and maintaining land use plans. Currently, SEWRPC is working on production of the 2050 Regional Land Use and Transportation Plan, which will update the current 2035 plan.

Custodian

- SEWRPC

Maintenance

- SEWRPC uses decadal census data to prepare population and economic forecasts, which are used to update, reevaluate, and extend the current land use and transportation plan. The 2000 census data was used to prepare and adopt the 2035 plan in 2006. The 2010 census data is now being used to prepare the updated 2050 plan. Thus, maintenance to the plan is likely to occur every 10 years.

Standards

- s. 66.1001, Wis. Stats. Comprehensive planning.
- SEWRPC, designated as the official area-wide regional planning agency, abides by s. 66.1001, Wis. Stats. Static Land Use Plan maps are available from SEWRPC's website.

Zoning

County General Zoning

Layer Status

- N/A - Milwaukee County does not maintain zoning data.

Shoreland Zoning

Layer Status

- N/A - Milwaukee County does not maintain zoning data.

Farmland Preservation Zoning

Layer Status

- N/A - Milwaukee County does not maintain farmland preservation data.

Floodplain Zoning

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

Airport Protection

Layer Status

- Milwaukee County has protection zoning boundaries for each runway at GMIA and Timmerman airports. There are also height restrictive boundaries to a height of 300ft.
- Airport protection zoning map depicts: Both protection zoning and height.

Custodian

- Milwaukee County Airport

Maintenance

- As needed

Standards

- FAA

Municipal Zoning Information Maintained by the County

e.g., Town, City and Village, Shoreland, Floodplain, Airport Protection, Extra-Territorial, Temporary Zoning for Annexed Territory, and/or Zoning Pursuant to a Cooperative Plan

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

Administrative Boundaries

Civil Division Boundaries

e.g., Towns, City, Villages, etc.

Layer Status

- The MCLIO cadastral data captures county and minor civil division boundaries.

Custodian

- Milwaukee County LIO

Maintenance

- Very few changes occur to Administrative Boundaries in Milwaukee County but they are all based on recorded documents in the Register of Deeds Office and/or filed in the Office of the Secretary of State.

Standards

- The MCAMLIS Cadastral datasets were compiled to a digital framework meeting National Map Accuracy Standards (NMAS) for one-inch-equals-100-feet-scale mapping

School Districts

Layer Status

- Progress toward completion/maintenance phase: 100
- Relation to parcels: YES
 - Attributes linked to parcels: SCHOOL_DIST, SCHOOL_ID

Custodian

- Milwaukee County LIO

Maintenance

- School district boundaries are updated on an as-needed basis.

Standards

- School district boundaries are compiled via taxroll attribute from municipal assessors

Election Boundaries

e.g., Voting Districts, Precincts, Wards, Polling Places, etc.

Layer Status

- Milwaukee County voting districts (VTD) are available as polygon boundaries with the ward/district name and ID.

Custodian

- Milwaukee County LIO on behalf of Milwaukee County Clerk

Maintenance

- Individual municipalities must inform the County Clerk of ward boundary changes twice a year, and Milwaukee County/MCAMLIS supports the integration of this data. Changes to the Ward maps are based on information provided from the municipality, and in the future, the Clerk's Office.

Standards

- Stand-alone layers that are not part of the MCLIO Topographic, Planimetric, or Cadastral datasets strive to meet National Map Accuracy Standards (NMAS) for one-inch-equals-100-foot-scale mapping.

Utility Districts

e.g., Water, Sanitary, Electric, etc.

Layer Status

- N/A

Custodian

- N/A

Maintenance

- N/A

Standards

- N/A

Public Safety

e.g., Fire/Police Districts, Emergency Service Districts, 911 Call Center Service Areas, Public Safety Answering Points, Healthcare Facilities

Layer Status

- Milwaukee County has police districts, PSAP locations, fire districts, 911 service areas and healthcare facilities

Custodian

- Milwaukee County Office of Emergency Management

Maintenance

- When needed

Standards

- NMAS

Lake Districts

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

Native American Lands

Layer Status

- NA

Custodian

- * NA

Maintenance

- NA

Standards

- NA

Other Administrative Districts

e.g., County Forest Land, Parks/Open Space, etc.

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

Other Layers

Hydrography Maintained by County or Value-Added

e.g., Hydrography maintained separately from DNR or value-added, such as adjusted to orthos

Layer Status

- N/A

Custodian

- N/A

Maintenance

- N/A

Standards

- N/A

Cell Phone Towers

Layer Status

- Milwaukee County has cell tower locations.

Custodian

- Cell Tower Provider

Maintenance

- N/A

Standards

- N/A

Bridges and Culverts

Layer Status

- Bridges are represented as points, lines, and polygons (as well as text annotation) in the MCLIO Facilities Planimetric dataset. Culverts are available as lines representing the underground location or as points representing the ends within the MCLIO Hydrography Topographic dataset.

Custodian

- Milwaukee County LIO

Maintenance

- Updates are done with the planimetric dataset changes and published at that time.

Standards

- The MCLIO Planimetric datasets were compiled to a digital framework meeting National Map Accuracy Standards (NMAS) for one-inch-equals-100-feet-scale mapping.

Other

e.g., Pipelines, Railroads, Non-Metallic Mining, Sinkholes, Manure Storage Facilities, etc.

Layer Status

- NA

Custodian

- NA

Maintenance

- NA

Standards

- NA

3 LAND INFORMATION SYSTEM

The WLIP seeks to enable land information systems that are both modernized and integrated. Integration entails the coordination of land records to ensure that land information can be shared, distributed, and used within and between government at all levels, the private sector, and citizens.

One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

- The design, development, and implementation of a land information system that contains and integrates, at a minimum, property and ownership records with boundary information, including a parcel identifier referenced to the U.S. public land survey; tax and assessment information; soil surveys, if available; wetlands identified by the department of natural resources; a modern geodetic reference system; current zoning restrictions; and restrictive covenants.

This chapter describes the design of the county land information system, with focus on how data related to land features and data describing land rights are integrated and made publicly available.

Current Land Information System

County Parcel Data Workflow Diagram

The Milwaukee County Register of Deeds uses the software from Fidlar Technologies called AVID to process all recorded Real Estate Documents. AVID is a Land Records Management Software used to record, enter data, verify, and search information for all recorded documents.

Milwaukee County also uses Laredo and Tapestry from Fidlar Technologies for Land Records search engines for the public use to search real estate documents.

Fig 1. Milwaukee County Register of Deeds Real Estate Documents Process

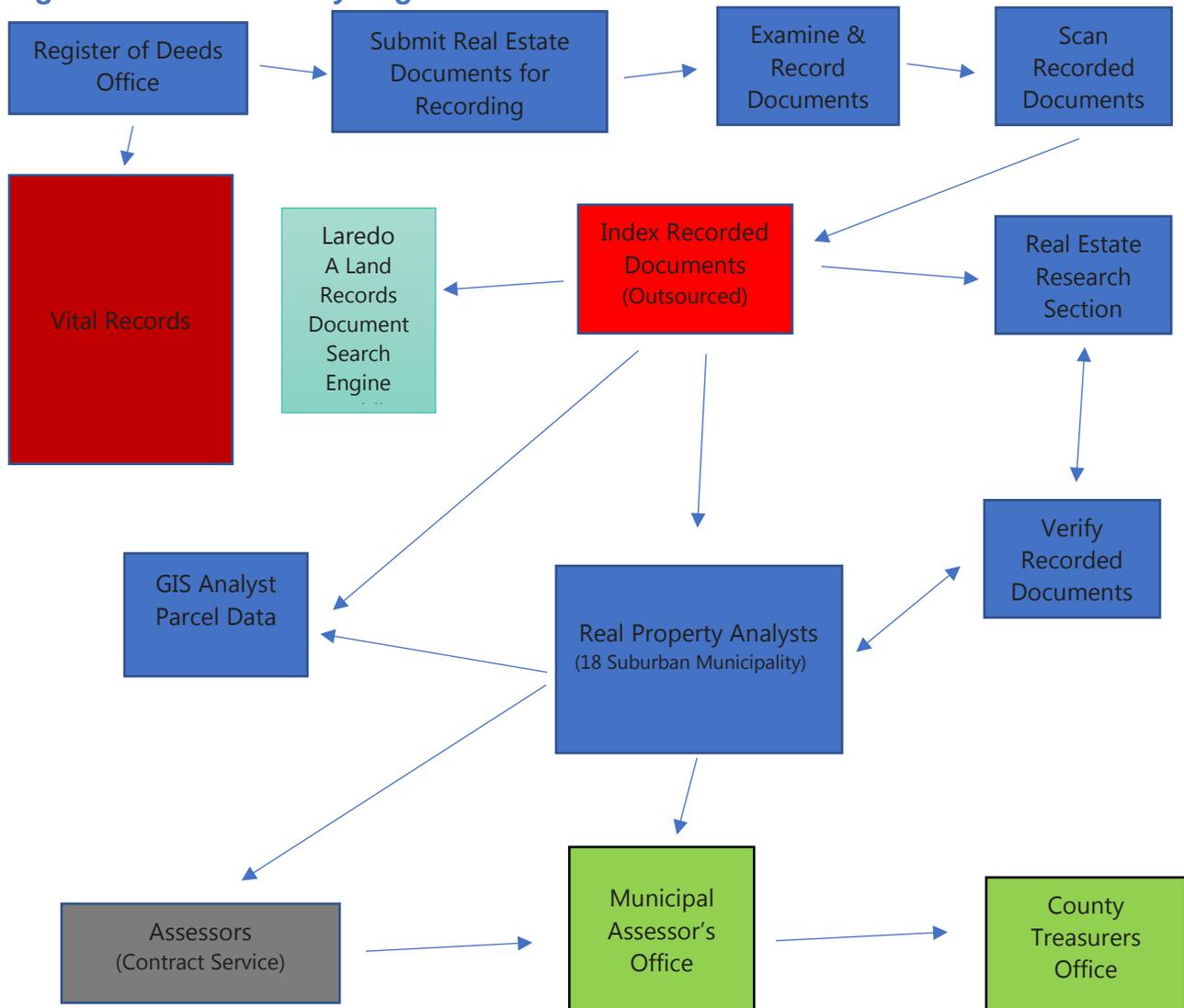
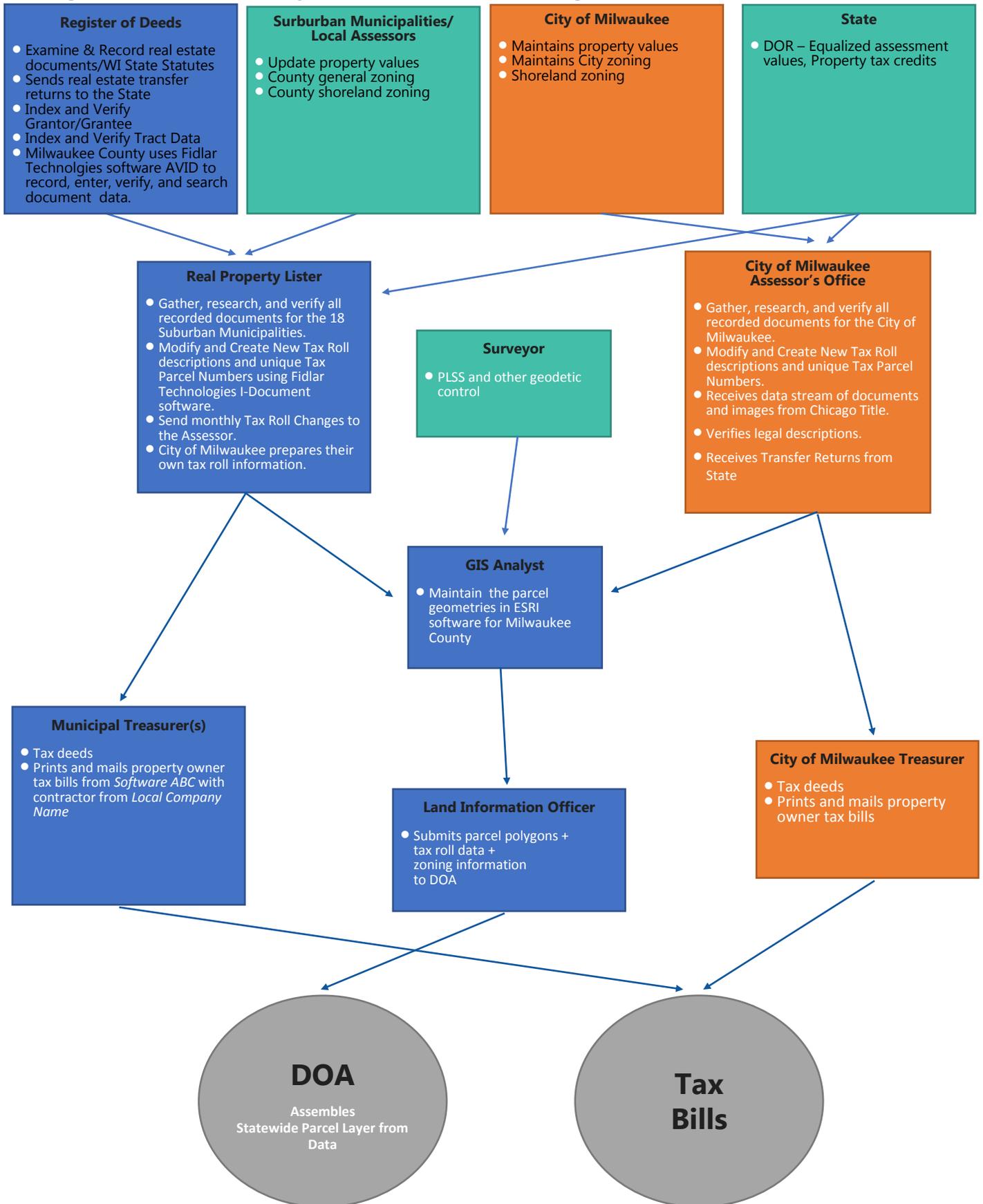


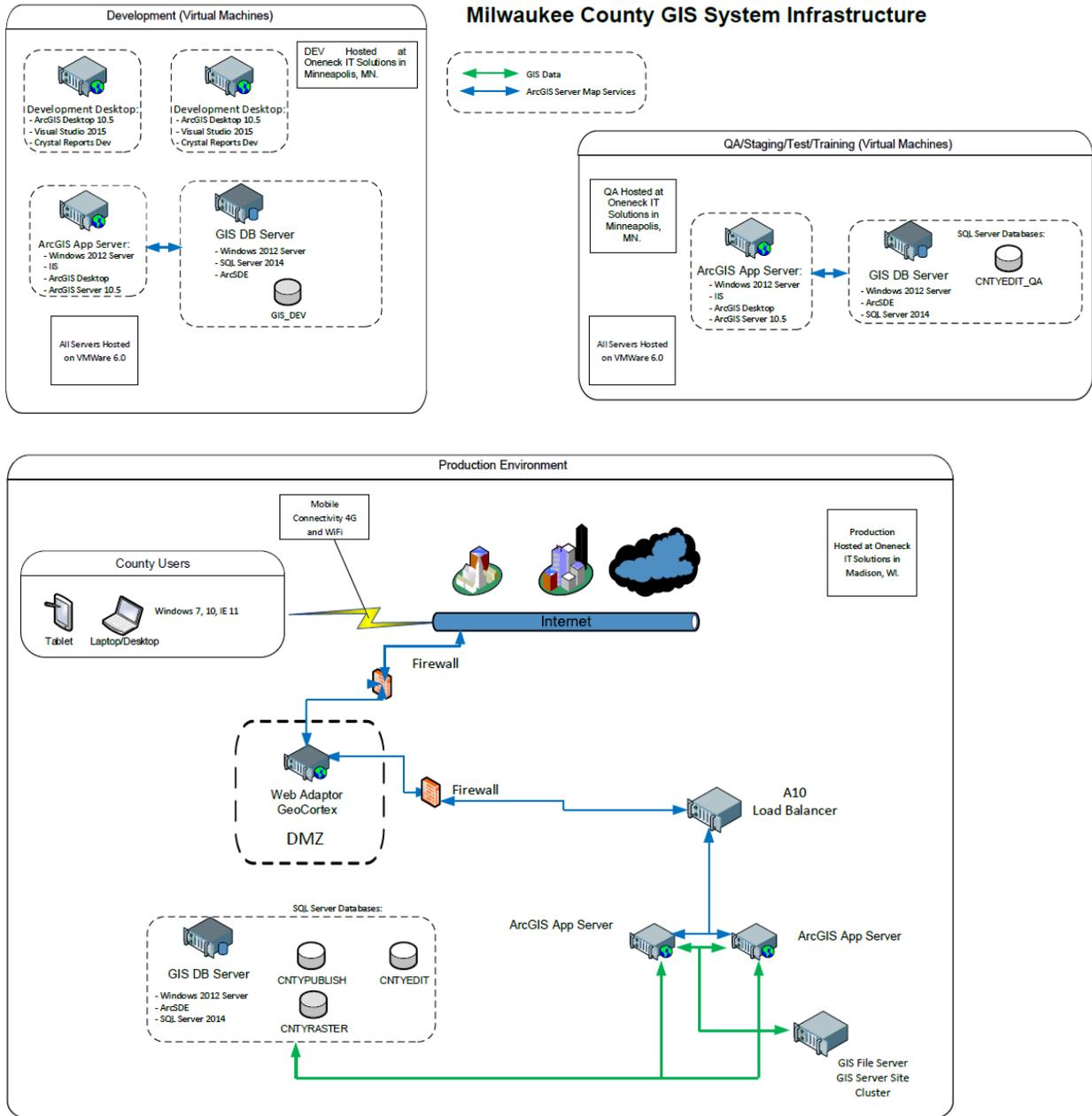
Fig 2. Milwaukee County Parcel + Tax Roll + Zoning Workflow



Technology Architecture and Database Design

This section refers to the hardware, software, and systems that the county uses to develop and operate computer systems and communication networks for the transmission of land information data.

Hardware



Software

- esri
- acad
- Blue Marble
- LP360

Website Development/Hosting

- Drop Box
- One Neck

Metadata and Data Dictionary Practices

Metadata Creation

- **Metadata creation and maintenance process:** Metadata is created or attached when data is published

Metadata Software

- **Metadata software:** esri
 - The software does generate metadata consistent with the FGDC Content Standard for Digital Geospatial Metadata, and ISO geographic metadata standard 19115.
- **Metadata fields manually populated:** Summary, Description, Credits

Metadata Policy

- **Metadata Policy:** Metadata is created or attached when data is published

Municipal Data Integration Process

- NA

Public Access and Website Information

Public Access and Website Information (URLs)

Public Access and Website Information

GIS Webmapping Application(s) Link - URL

<http://county.milwaukee.gov/mclio>

GIS Download Link - URL

<http://gis-mclio.opendata.arcgis.com/>

Real Property Lister Link - URL

<http://gcswebportal.milwaukeecounty.org/GCSWebPortal/Search.aspx>

Register of Deeds Link - URL

<http://county.milwaukee.gov/RealEstateRecrdsInte9846.htm>

Single Landing Page/Portal for All Land Records Data

URL

<http://county.milwaukee.gov/mclio/geodata/imagery/Data-Download-Form.htm>

Municipal Website Information

Municipal Website

Open Data

Municipal Website URL

<http://gis-mclio.opendata.arcgis.com/>

Data Sharing

Data Availability to Public

Data Sharing Policy

- The Milwaukee County Land Information Office posts all publishable GIS data on the LIO website and open data page

Open Records Compliance

- Milwaukee County Complies with open records law

Data Sharing Restrictions and Government-to-Government Data Sharing

Data Sharing Restrictions

- NA

Government-to-Government Data Sharing

- NA

Training and Education

- Milwaukee County LIO provides training and educational opportunities

4 CURRENT & FUTURE PROJECTS

This chapter lists the current and future land information projects the county is currently undertaking or intends to pursue over its planning horizon. A project is defined as a temporary effort that is carefully planned to achieve a particular aim. Projects can be thought of as the *means* to achieving the county's mission for its land information system.

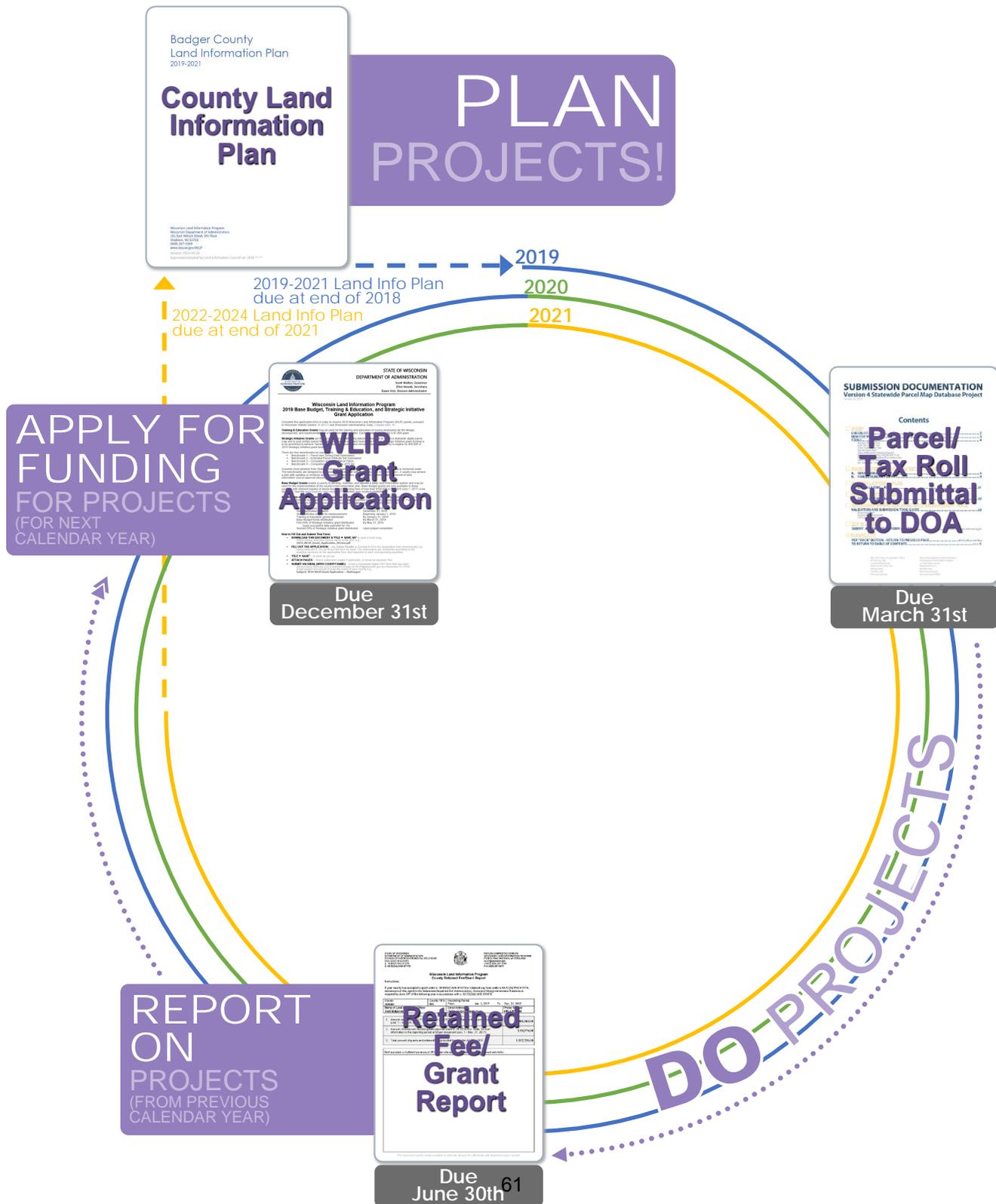


Figure 1. The WLIP Land Information Plan/Grant Project Cycle

Project #1: Planimetric Data Maintenance - 2018

Project Description/Goal

- This task will update the current topographic dataset. The topographic dataset has been fully polygonalized since 2010, with updates current up to 2015. This project will bring the currency of the dataset to 2018. The project will use the 2018 aerial photography as the mechanism to show change. An update area will be produced based on differences observed from comparing the 2015 and 2018 with the current planimetric data.
- **Land Info Spending Category:** Other Parcel Work

Business Drivers

- Update base mapping
- Keep core dataset up to date
- Maintain planimetric integrity

Objectives/Measure of Success

- Update the 2018 Topographic and Planimetric Polygonalized Dataset
- Incorporate the updated data to the current datasets, services, and caches

Project Timeframes

Timeline – Planimetric Data Update		
Milestone	Duration	Date
Project #2 start	–	January 1, 2019
Project data Updates	9 months	Jan 1–Sept 30 2019
Project complete	–	Oct 1, 2019

Responsible Parties

- GIS Technician (100%)

Estimated Budget Information

- See table at the end of this chapter.

Project #2: Support New Datum Requirements

Project Description/Goal

- The migration of the Horizontal Datum NAD 83 and Vertical NAVD 88 will be complete by June of 2019. This project is to support and integrate remaining data, services, and outstanding processes for internal and external organizations.
- **Land Info Spending Category:** PLSS

Business Drivers

- Keep data and services consistent
- Support local and regional organizations

Objectives/Measure of Success

- Document processes and procedures for migrated data and services
- Support client and partner needs and requests

Project Timeframes

Timeline – Support New Datum Requirements		
Milestone	Duration	Date
Project #3 start	–	January 1, 2019

Project data Updates	12 months	Jan 1–Dec 31 2019
Project complete	–	Jan, 2020

Responsible Parties

- GIS Analyst (10%), GIS Manager (10%)

Estimated Budget Information

- See table at the end of this chapter.

Project #3: Plat of Survey Index Maintenance

Project Description/Goal

- Every survey completed by a registered surveyor must be submitted to the County Surveyor. The County Surveyor then collects these recorded plats. Milwaukee County acquires these hard copy submissions and has them scanned into digital format. After the scanning has been completed, the plats are geocoded and placed into an application that is published to the internet. Milwaukee County indexes the published plats to be retrieved from the Milwaukee County GIS interactive mapping site. A viewer is able to search for plats of survey that have been completed within Milwaukee County and retrieve a digital copy for display and printing.
- **Land Info Spending Category:** Other Parcel Work

Business Drivers

- Make the plat of surveys available to public

Objectives/Measure of Success

- Scan Plats of Survey acquired from the County Surveyor which in Milwaukee County is SEWRPC
- Index and geocode the Plats of Survey
- Update the Interactive Mapping Site for publication

Project Timeframes

Timeline – Plat of Survey Index Maintenance		
Milestone	Duration	Date
Project #4 start	–	January 1, 2019
Project data Updates	36 months	Jan 1–Dec 31 2021
Project complete	–	Jan 1, 2022

Responsible Parties

- GIS Analyst (5%), Contractor Services

Estimated Budget Information

- See table at the end of this chapter.

Project #4: Enterprise Address System Maintenance

Project Description/Goal

- The enterprise address system program effort has continued to the present and is now maintained as the MCLIO Enterprise Address System whereby street, parcel, building and unit addresses are fully integrated across the entire county. Maintenance automation tools are utilized to manage the database as address component updates are required and maintenance is performed.

- **Land Info Spending Category:** Address

Business Drivers

- Keep accurate list of addresses

Objectives/Measure of Success

- Maintain integrity between address components
- Alter automation tools and procedures to adapt to additional information
- Continue Quality Control on individual address records

Project Timeframes

Timeline – Enterprise Address System Maintenance		
Milestone	Duration	Date
Project #5 start	–	Jan 1, 2019
Maintain Data views for QC processes	2 weeks per year	
Control Integrity between Datasets	2 months per year	
Quality Control of Data	2 months per year	
Project complete	–	Dec 31, 2021

-

Responsible Parties

- GIS Technician (10%), SR GIS Analyst (5%)

Estimated Budget Information

- See table at the end of this chapter.

Project #5: Street Centerline Maintenance

Project Description/Goal

- A maintenance cycle is on place for the enterprise street centerline dataset. The centerlines are maintained for routing purposes as well as mapping purposes. The data is consumed by the Milwaukee County Sherriff’s Office as well other municipalities located within Milwaukee County. A quarterly update of the discrete address range and spatial representation is completed.

- **Land Info Spending Category:** Street Centerlines

Business Drivers

- Keep accurate centerline dataset

Objectives/Measure of Success

- Update Street centerlines
- Update data views and data schema

Project Timeframes

Timeline – Enterprise Address System Maintenance		
Milestone	Duration	Date
Project #5 start	–	Jan 1, 2019

Maintain Data views for QC processes	2 weeks per year	
Control Integrity between Datasets	2 months per year	
Quality Control of Data	2 months per year	
Project complete	–	Dec 31, 2021

Responsible Parties

- GIS Technician (10%), SR GIS Analyst (5%)

Estimated Budget Information

- See table at the end of this chapter.

Project #6: Cadastral Improvements

Project Description/Goal

- In 2017, the LIO started to perform the cadastral updates for the entire County, including the City of Milwaukee. The LIO took this time to gauge the amount of additional work that is needed to maintain the cadastral dataset. For 2018, the LIO will make improvements to this data. The goal for this project is to make the data consistent throughout the County. The improvements include adding documents to the CSM's, Subdivisions, and Condos that are missing; verifying line work and attributes; cleaning annotation; adding original plat and cartographic data to generalized lands; research errors in platted lands and producing a Countywide plat\tax book for publication.
- **Land Info Spending Category:** Digital Parcel Mapping

Business Drivers

- Consistent cadastral dataset

Objectives/Measure of Success

- Consistent look for tax map
- Validation of plats and documents

Project Timeframes

Timeline – Enterprise Address System Maintenance		
Milestone	Duration	Date
Project #7 start	–	March 1, 2018
Cleanup of annotation	21 Months	Mar 1, 2018- Dec 31,2019
Data Integrity – linework	21 Months	Mar 1, 2018- Dec 31,2019
Quality Control of Data	3 months	Jan 1, 2020-Mar 31, 2020
Project complete	–	April 1, 2020

Responsible Parties

- GIS Technician (100%) GIS Technician LTE (100%)

Estimated Budget Information

- See table at the end of this chapter.

Project #7: 2020 Imagery Capture – Ortho\Oblique

Project Description/Goal

- 2020 imagery flight

- **Land Info Spending Category:** Ortho Imagery

Business Drivers

- Public and government agencies

Objectives/Measure of Success

- New imagery

Project Timeframes

Timeline – Plat of Survey Index Maintenance		
Milestone	Duration	Date
Project #8 start	–	January 1, 2020
Imagery Capture and Processing	7 months	Mar 31–Oct 31 2020
Project complete	–	Dec 31, 2020

Responsible Parties

- GIS Manager (5%) Contractor (95%)

Estimated Budget Information

- See table at the end of this chapter.

Project #8: 2020 Lidar Capture

Project Description/Goal

- Capture of Lidar for Milwaukee County (QL2)
- **Land Info Spending Category:** LiDAR

Business Drivers

- Keep LiDAR and LiDAR derived products up to date

Objectives/Measure of Success

- Capture LiDAR and produce raster derived products

Project Timeframes

Timeline – Plat of Survey Index Maintenance		
Milestone	Duration	Date
Project #8 start	–	January 1, 2021
LiDAR Capture and derived raster Processing	7 months	Mar 31–Dec 31 2021
Project complete	–	Dec 31, 2021

Responsible Parties

- GIS Manager (5%) GIS Analyst (10%) Contractor (85%)

Estimated Budget Information

- See table at the end of this chapter.

Project #9: 2021 Planimetric Update

Project Description/Goal

- This task will update the current topographic dataset. The topographic dataset has been fully polygonalized since 2010, with updates current up to 2018. This project will bring the currency of the dataset to 2020. The project will use the 2020 aerial photography as the mechanism to show change. An update area will be produced based on differences observed from comparing the 2018 and 2020 with the current planimetric data.
- **Land Info Spending Category:** Other Parcel Work

Business Drivers

- Update base mapping
- Keep core dataset up to date
- Maintain planimetric integrity

Objectives/Measure of Success

- Update the 2018 Topographic and Planimetric polygonalized dataset
- Incorporate the updated data to the current datasets, services, and caches

Project Timeframes

Timeline – Planimetric Data Update		
Milestone	Duration	Date
Project #10 start	–	January 1, 2021
Project data Updates	9 months	Jan 1–Sept 30 2021
Project complete	–	Oct 1, 2021

Responsible Parties

- GIS Technician (100%)

Estimated Budget Information

- See table at the end of this chapter.

Project #10: Implement esri Parcel Fabric Model

Project Description/Goal

- After the Cadastral Improvement project in 2018-2020, the MCLIO will re-evaluate implementing esri's parcel fabric model. The Cadastral data will be consistent throughout the County and the MCLIO will have the ability to adopt the new model at this time. The MCLIO will evaluate if this migration is needed before the project would commence. A pilot will need to be completed as well as a thorough understanding of benefits would need to be realized before the full project would start.
- **Land Info Spending Category:** Digital Parcel Mapping

Business Drivers

- MCLIO
- Publishing for Municipalities and public
- Efficiency to maintain cadastral data

Objectives/Measure of Success

- Produce parcel fabric pilot
- Evaluate work effort and benefits realized
- Migrate the Milwaukee County cadaster into the esri parcel fabric model

Project Timeframes

Timeline – Implement esri Parcel Data Fabric Model		
Milestone	Duration	Date
Project #10 start	–	April 1, 2020
Esri Parcel Fabric Pilot	3 months	April 1- July 1,2020
Evaluation of pilot	1 month	July 1 –August 1,2020
Parcel Fabric Migration	9 months	August 1– April 1,2021
Update Cadastral Data Services and Applications	1 month	April 1-May 1,2021
Project complete	–	June 1, 2021

Responsible Parties

- Sr. GIS Analyst (50%), GIS Analyst (50%), GIS Technician (50%)

Estimated Budget Information

- See table at the end of this chapter.

Estimated Budget Information (All Projects)

Estimated Budget Information				
Project Title	Item	Unit Cost/Cost	Land Info Plan Citations Page # or section ref.	Project Total
1) Planimetric Data Maintenance	GIS Technician position	100% for 9 months = \$60,000	Page 35	–
				60,000
2) Support New Datum Requirements	GIS Analyst position	10% of \$110,000 = 11,000	Page 35	–
	GIS Manager position	10% of \$148,000 = 14,800		–
				25,800
3) Plat of Survey Index Maintenance	GIS Analyst position	5% of \$110,000 = 5,500 per year	Page 36	
	Contractor Services	\$500 per year		18,000
4) Enterprise Address System Maintenance	GIS Technician position	10% of \$80,000 = 8,000	Page 36	
	GIS Sr Analyst position	5% of \$136,000 = 6,800		14,800
5) Street Centerline Maintenance	GIS Technician position	10% of \$80,000 = 8,000	Page 37	
	GIS Sr Analyst position	5% of \$136,000 = 6,800		14,800
6) Cadastral Improvements	GIS Technician position	100% of \$80,000 for 2 years = 160,000	Page 38	
	GIS Analyst	50% of \$110,000 for 2 years = 110,000		270,000
7) 2020 Imagery Capture	GIS Manager	5% of \$148,000 = 7,400	Page 39	
	Contractor Services	= 130,000		137,400
8) 2020 LiDAR Capture	GIS Manager	5% of \$148,000 = 7,400	Page 39	
	GIS Analyst	10% of \$110,000 = 11,000		

	Contractor	Services = 65,000		83,400
9) 2021 Planimetric Update	GIS Technician	100% for 9 months = \$60,000	Page 40	60,000
10) Esri Parcel Fabric Model	GIS Sr Analyst	50% of \$136,000 = 68,000	Page 40	
	GIS Analyst	50% of \$110,000 = 55,000		
	GIS Technician	50% of \$80,000 = 40,000		231,000
GRAND TOTAL				915,200

Note. These estimates are provided for planning purposes only. Budget is subject to change.



SUBMISSION DOCUMENTATION

Version 4 Statewide Parcel Map Database Project

January 22, 2018

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	Explain-Certification.txt	
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<input type="checkbox"/>	ZIP & SUBMIT	
	SUBMIT .INI SUBMISSION FORM + DATA	@ wisedecade.legis.wisconsin.gov
<input type="checkbox"/>	NAVIGATE	
	PDF “BACK” BUTTON - RETURN TO PREVIOUS PAGE.....	Alt + Left arrow key
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V4 Data Submission Checklist

Tools

- Address Parsing Tool
- DOR XML Parse Tool
- Data Standardize Tool
- Condo Stack Tool
- Class of Property Dissolve Toolset
- Null Fields and Set to UPPERCASE Tool
- Field Mapping Workflow Documentation
- Summary Table Guide
- Validation and Submission Tool (run in "TEST Mode" will check data)
- GIS Template – Searchable Format

Counties Note

You may need to first groom the data!
Note that counties may need to clean and standardize some of the parcel and tax roll data in order to meet the Searchable Format. The county is responsible for meeting the Searchable Format standard—regardless of whether they work with a third-party vendor. All submissions should be vetted by the county before submission, as vendors do not always catch each error or deviation from the schema fields/domains.

County Incorporate ALL Municipal Data.

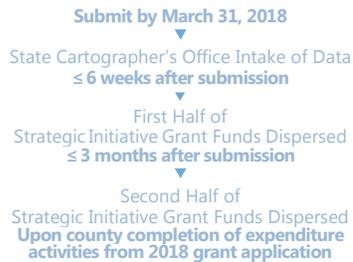
Counties should be the only entity submitting data for V4. If a municipality stewards 1) parcel data and/or 2) tax roll data separately from the county, the county should request, integrate, and submit data **that has been standardized** for the municipality.

Dates of Data

V4 data submitted by March 31, 2018 should be a snapshot of:

- **Parcel geometry** from January 1, 2018 (or more current if available).
- **Tax roll data** associated with the parcel as finalized in December of 2017 (based on the parcel as it existed on January 1, 2017, as assessment data lags a year behind).

Grant Timeline



Read the Full Submission Documentation!

This checklist does NOT represent all schema specs and requirements. Read the full documentation and ask questions along the way as you prep your data!

Questions?

- **LIO county contacts in your peer counties are a great resource!**
- **Re-read Submission Documentation**
- **Check the FAQs section on the V4 webpage**
- **Technical questions** – contact Codie See, csee@wisc.edu
- **Policy/grant questions** – contact Peter Herreid at 608-267-3369 or peter.herreid@wisconsin.gov

1 ✓ PREP

- Read schema documentation in full and review **V4 webpage!**
- Prep data for the Searchable Format Gather, clean, groom, and standardize!
- Employ any useful **Tools**
- Review your **V3 Observation Report** and rectify all V3 errors

2 ✓ PARCEL FEATURE CLASS WITH TAX ROLL DATA

- All attribute data in the GIS table
- Include county-wide digital parcel data with attributes according to **Apix B** (PARCEL SCHEMA – annotated list ▶)
- Follow instructions in **Apix A** to format, standardize domains, and model condos according to condo model scenario from **Fig A-1**

3 ✓ OTHER LAYERS – PLSS

- Submit PLSS corner data, per **Apix C**

4 ✓ OTHER LAYERS – RML

Submit other layers AS IS, *IF* updated/new, per **Apix D:**

- Zoning: General (county-maintained)
- Zoning: Shoreland (county-maintained)
- Zoning: Airport Protection (county-maintained)
- Rights of Way
- Roads/Streets/Centerlines
- Hydro
- Address Points
- Buildings/Building Footprints
- Land Use
- Parks/Open Space; Trails; Other Recreation

5 ✓ VALIDATE WITH VALIDATION AND SUBMISSION TOOL

- Download then run the **Validation and Submission Tool**. You may need to REPEAT in **TEST mode** (unchecked box in tool) to resolve deviations from schema
- Run Validation and Submission Tool in **FINAL mode**
- Input your **Explain-Certification.txt** file in the tool in section 2
- Certify that your submission is complete (relative to the Element Occurrence Standard) in section "2-Submission Form Basic Info"
- Save the **“.ini” file**—which is your *mandatory* submission form

6 ✓ ZIP AND SUBMIT

- Submit .ini submission form + data to **wisedecade.legis.wisconsin.gov** as a single zipped (.zip) file 71

Statewide Field Name (Clickable!)	Alias (Full Definition in Apix B)	Benchmark 1 & 2 Requirement
<input type="checkbox"/> STATEID ¹³	Auto-Populated State ID	–
<input type="checkbox"/> PARCELID	Parcel ID	Yes
<input type="checkbox"/> TAXPARCELID	Tax Parcel ID	Yes
<input type="checkbox"/> PARCELDATE	Parcel Date	Yes
<input type="checkbox"/> TAXROLLYEAR	Tax Roll Year	Yes
<input type="checkbox"/> OWNERNAME1 ²	Primary Owner Name ³	Yes
<input type="checkbox"/> OWNERNAME2	Secondary Owner Name ³	Yes – If available
<input type="checkbox"/> PSTLADDRESS	Full Mailing Address (Owner) ⁴	Yes
<input type="checkbox"/> SITEADDRESS	Full Physical Street Address ^{5,6}	Yes
<input type="checkbox"/> ADDNUMPREFIX	Address Number Prefix	Yes – Parse ^{7,8}
<input type="checkbox"/> ADDNUM	Address Number	Yes – Parse ^{7,8}
<input type="checkbox"/> ADDNUMSUFFIX	Address Number Suffix	Yes – Parse ^{7,8}
<input type="checkbox"/> [PREFIX]	Prefix ¹	Yes – Parse ^{7,8}
<input type="checkbox"/> STREETNAME	Street Name	Yes – Parse ^{7,8}
<input type="checkbox"/> [STREETTYPE]	Street Type	Yes – Parse ^{7,8}
<input type="checkbox"/> [SUFFIX]	Suffix	Yes – Parse ^{7,8}
<input type="checkbox"/> LANDMARKNAME	Landmark Name	Yes – Parse ^{7,8}
<input type="checkbox"/> UNITTYPE	Unit Type	Yes – Parse ^{7,8}
<input type="checkbox"/> UNITID	Unit ID	Yes – Parse ^{7,8}
<input type="checkbox"/> PLACENAME	Place Name (Jurisdictional)	Yes
<input type="checkbox"/> ZIPCODE	Zip Code	Yes
<input type="checkbox"/> ZIP4	Zip Code Plus 4	Yes
<input type="checkbox"/> STATE	State	Yes
<input type="checkbox"/> [SCHOOLDIST]	School District	Yes
<input type="checkbox"/> [SCHOOLDISTNO]	School District Number	Yes
<input type="checkbox"/> [IMPROVED]	Improved Structure (CALCULATED)	Yes
<input type="checkbox"/> CNTASSDVALUE	Total Assessed Value ⁹	Yes
<input type="checkbox"/> LNDVALUE	Assessed Value of Land	Yes
<input type="checkbox"/> IMPVALUE	Assessed Value of Improvements	Yes – If applicable
<input type="checkbox"/> FORESTVALUE	Assessed Forested Value	Yes – If applicable
<input type="checkbox"/> ESTFMKVALUE	Estimated Fair Market Value	Yes
<input type="checkbox"/> NETPRPTA	Net Property Tax	Yes
<input type="checkbox"/> GRSPRPTA	Gross Property Tax	Yes
<input type="checkbox"/> [PROPCCLASS]	Class of Property ¹⁰	Yes
<input type="checkbox"/> [AUXCLASS]	Auxiliary Class of Property ¹¹	Yes
<input type="checkbox"/> ASSDACRES	Assessed Acres	Yes
<input type="checkbox"/> DEEDACRES	Deeded Acres	Yes
<input type="checkbox"/> GISACRES	GIS Acres ¹²	No
<input type="checkbox"/> [CONAME]	County Name	Yes
<input type="checkbox"/> LOADDATE ¹³	Load Date	–
<input type="checkbox"/> [PARCELFIPS]	Parcel Source FIPS	Yes
<input type="checkbox"/> [PARCELSRC]	Parcel Source Name	Yes
<input type="checkbox"/> [LONGITUDE] ¹³	Longitude of Parcel Centroid	–
<input type="checkbox"/> [LATITUDE] ¹³	Latitude of Parcel Centroid	–

Table Notes

1. **[STANDARDIZE DOMAINS]**: Standardize domains for PREFIX, STREETTYPE, SUFFIX, SCHOOLDIST, SCHOOLDISTNO, IMPROVED [CALCULATED], PROPCCLASS, AUXCLASS, CONAME, PARCELFIPS, and PARCELSRC.
2. **REDACTION POLICY**. OWNERNAME1/OWNERNAME2. Owner names are necessary for data submittal to be usable by state agencies. Any redaction of owner names, as required by an existing county or municipal policy, should be handled explicitly in the data *before* it is submitted. If any or all owner names are not included, the county must include the **written policy** for excluding them as adopted by the county or municipality with the data submission. See full schema for more.
3. **OWNERNAME1**. 2nd owner goes in OWNERNAME2; 3rd owner is omitted.
4. **PSTLADDRESS**. Tax bill mailing address (for **owner**—NOT the parcel itself—owner mailing address may be out-of-state); all other mailing addresses omitted.
5. **SITEADDRESS**. Unless no address has been assigned (e.g., no physical structure on parcel). If a site address does not exist as segmented elements in the county land information system, the county must **parse site address elements** before submitting. Address elements are (in this order): ADDNUMPREFIX, ADDNUM, ADDNUMSUFFIX, PREFIX, STREETNAME, STREETTYPE, SUFFIX, LANDMARKNAME, UNITTYPE, UNITID.
6. **SITEADDRESS**. Only include primary address; 2nd address is omitted.
7. **PARSING OF ADDRESS ELEMENTS**. (ADDNUMPREFIX through UNITID). Counties must provide fully parsed site address elements. While PSTLADDRESS and SITEADDRESS are provided as a full field and not parsed, there are **elements of the parcels SITEADDRESS** which should be **parsed in to individual elements with standardized domains**.
8. **ADDRESS ELEMENTS**. (ADDNUMPREFIX through UNITID). Only include address elements from the primary site address.
9. **CNTASSDVALUE**. Total Assessed Value (CNTASSDVALUE) must be calculated before submitting. Often this is Assessed Value of Land + Assessed Value of Improvements. See full schema for more.
10. **PROPCCLASS**. Listed if more than one exists and delimited by commas.
11. **AUXCLASS**. Should be standardized for the assessment classifications of "Special" and "Tax Exempt" specified in schema. Any AUXCLASS class not meeting the definition of one of the Special/Exempt standard domains may be left as is, but contributors must submit a document that defines each of the submitted domains in *Explain-Certification.txt* portion of submission form.
12. **GISACRES**. GIS acres is optional.
13. **STATEID & LOADDATE**. Include STATEID and LOADDATE with submission but **leave <Null>**. Do **NOT** include LONGITUDE/LATITUDE fields, as they are to be populated by the aggregation team.

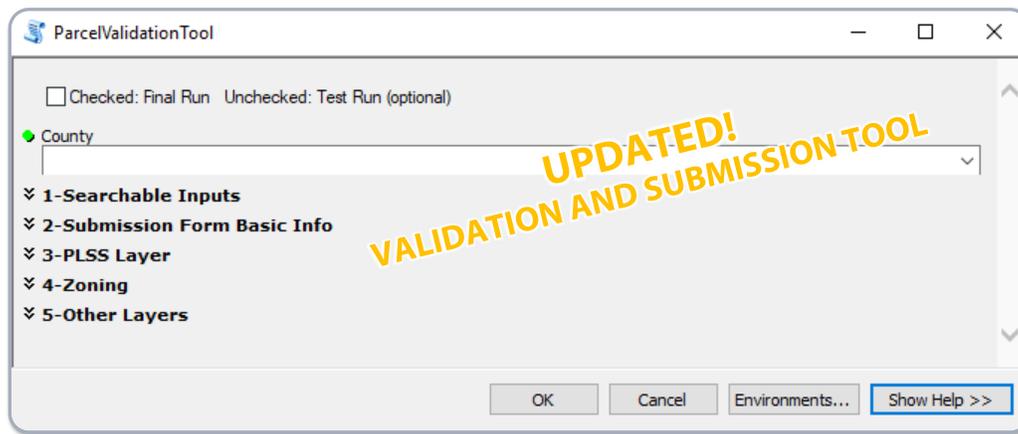
NEW FOR V4

The data acquired through this request will be used to develop a statewide parcel layer for the next version of the Statewide Parcel Map Database Project, Version 4.

The data you are asked to submit for V4 will be extremely similar to the V3 data. The V4 schema is not different in any substantive way. However, there have been some clarifications, and a few other changes for V4.

Modifications for V4

- **Validation and Submission Tool.** Our project partners at the State Cartographer's Office have updated the Validation and Submission Tool that counties are required to run in order to validate their data against the schema. Submitters must run the tool in FINAL mode before they can submit. You must re-download an updated version of the tool, then run it. The Submission Form (an ".ini" file) is produced by running the Validation and Submission Tool in FINAL mode. The .ini Submission Form is a mandatory component of the data submission.



- **Submit PLSS Corner Data.** To maximize return on investment on expenditures related to PLSS, DOA is collecting PLSS corner data, to be shared with SCO for the library associated with Survey Control Finder (formerly called "PLSSFinder"), and for a new sub-project to create an initial version of a statewide PLSS database. PLSS corner data must be submitted this year. See Appendix C for directions.
- **Other Layers – Submit Updated/New Only.** DOA is continuing to combine the V4 data request with a request that has been separate in the past—that of Jaime Martindale of the UW-Madison Robinson Map Library (RML). Therefore, we are requesting a few other layers, in addition to parcels with tax roll attributes. However, **only UPDATED/NEW other layers are to be submitted.** See Appendix D for more.
- **Easier Zoning Data Submission.** For V4, counties only need to submit three layers of county-maintained zoning data: 1) General, 2) Shoreland, and 3) Airport Protection. These layers may be submitted AS IS, except for the requirement that the zoning layers shall be complete. "Complete" means the GIS file should include either:
 - a) a field with a description of the class name for each zoning feature, or
 - b) a field or metadata populated with a link to a valid webpage or web document that contains authoritative/official descriptions of the specific zoning class or all zoning classes within the jurisdiction.
- **No Export Format Option.** There is no longer an option to submit in the Export Format. The Export Format was a flexible format which was converted to the Searchable Format on behalf of counties, requiring a join to be made after the county had submitted. It was permitted for parcel data submission in 2016 and 2017, while the Searchable Format was being phased in, but is no longer accepted. As communicated in many ways since 2015—including in the 2016 and 2017 grant applications—March 31st, 2018 is the deadline for *all* counties to meet the Searchable Format (also known as Benchmarks 1 and 2–Parcel and zoning data submission/Extended parcel attribute set submission). Counties will need to meet the Searchable Format in order to execute their 2018 WLIP Strategic Initiative grant. In some cases in which a county does not meet the Searchable Format requirements with their V4 submission, the county may need to alter its 2018 grant agreement to address deficiencies in its parcel layer or native data.
- **Clarified Documentation.** The V4 documentation has been revised. Some attribute definitions have been clarified. Discard any V3 documentation or V3 links. Replace with this updated Submission Documentation and V4 links. Counties will want to **carefully read the full schema** in order to ensure they are meeting the Searchable Format and to avoid excessive error messages in the Validation and Submission Tool.

TOOLS

Tools and Guides to Assist



Validation and Submission Tool

- **Check your parcel dataset for errors and prepare a parcel submission .ini file**

The Validation and Submission Tool is a dual-purpose tool that helps to:

- 1) Prepare a parcel dataset submission that is free of some of the most commonly found parcel dataset errors; and
- 2) Offers the interface through which to prepare the .ini submission form that must be included with the parcel data submission.

Address Parsing Tool

- **Parse site addresses into sub-address elements**

Use this guide if your county's parcel SITE ADDRESS data is not available as fully parsed address elements meeting the statewide parcel schema and you would like to use the given site address data to help meet the Searchable Format.

DOR XML Parse Tool

- **Translate Wisconsin Department of Revenue Tax Roll XML into a GIS table**

Use this guide if your county's tax roll data is already in XML format and you would like to use that XML data to help meet the Searchable Format.

Data Standardize Tool

- **Standardize file geodatabase feature class data via the creation of a lookup table.**

This toolbox contains a two-tool sequence. The first tool may be used to create a summary table of a field. This table will then be edited by the user and subsequently used as input to the secondary tool. The output of the second tool will include all original field domains as well as newly standardized domains in a new field as defined by the user in the lookup table. The output will be written to a new feature class.

Condo Stack Tool

- **Model condos by stacking condo parcel geometries by owner.**

Use this tool to model condo parcel geometries to match tax roll records with a 1:1 relationship.

Class of Property Dissolve Toolset

- **Format class of property data to the Parcel Initiative's schema definitions.**

This tool may be helpful if you wish to reformat your class of property information so as to meet the requirements of the statewide parcel schema definitions of PROPCCLASS and AUXCLASS. This tool will handle various common formats for class of property and may be helpful if your data exists in one of these formats.

Null Fields and Set to UPPERCASE Tool

- **Format all attributes within a feature class to <Null> and UPPERCASE.**

This tool may be helpful if you wish to format your blank fields or fields annotated with a specific string to a true SQL <Null> or if you wish to set all fields to UPPERCASE alpha characters.

Field Mapping Workflow Documentation

- **Use this guide for mapping your parcel attributes to the Statewide Parcel Schema.**

This guide may be useful if you have parcel data formatted to the statewide schema specifications, but the fields do not have one or more of the following qualities:

- FIELD NAME
- ALIAS NAME
- DATA TYPE and/or PRECISION

Summary Table Guide

- **Use this guide if you wish to examine your submission in preparation for submitting your Searchable Format data. This guide is of particular use for cleaning, validating, and standardizing data.**

Creating and using summary tables can be an efficient and effective means for understanding, assessing, and standardizing your data. Through the simple workflows outlined in this guide, you'll be able to know exactly what domains exist within a field and quickly be able to apply corrections to the data, if needed.

GIS Template – Searchable Format

- **Contains the attribute schema and coordinate reference system as specified for achieving the Searchable Format.**

The template contains no features so that you can readily load your parcel features and field map as appropriate using the Field Mapping Workflow Documentation.

A. SEARCHABLE FORMAT

The Searchable Format directly meets the data model requirements of the statewide parcel layer. When submitting in the Searchable Format, the parcel and tax roll data is prepared by the county for immediate aggregation with the statewide layer, matching the schema exactly. Counties must plan to meet the Searchable Format by March 31, 2018 at the latest.

The Searchable Format follows a “FLAT MODEL,” meaning that one-to-many, many-to-many, or many-to-one relationships between geometries and attributes cannot exist. This also means that **all attribute data exists in the GIS table**. Data submissions requiring table joins are prohibited.

1. Searchable Format Parcel Geometries

1.1 File Specifications

- **GIS Template.** A GIS template file has been provided on the [V4 webpage](#) and can be used for submission: `GISTemplates.gdb\SearchableFormatTemplate`
- **File Geodatabase.** Parcel geometries must be submitted as a file geodatabase (.gdb) containing all available digital parcels as a single feature class.
- **Naming Convention.** Parcel feature class in the Searchable Format must follow the naming convention:
 - Geodatabase named with the county name
 - Feature class containing parcel geometries named “PARCELS”
 - Spaces annotated as underscores “_”
 - Punctuation omitted
 - All alpha characters UPPERCASE
 - Examples:
 - ▶ `LA_CROSSE_PARCELS.gdb\PARCELS`
 - ▶ `FOND_DU_LAC_PARCELS.gdb\PARCELS`
 - ▶ `ST_CROIX_PARCELS.gdb\PARCELS`
- **Projection/CRS.** Parcel geometries **must be transformed to the following CRS** (coordinate reference system specifications) using the transformation of choice, if applicable.
 - This CRS may be imported from `GISTemplates.gdb\SearchableFormatTemplate` on the [V4 webpage](#).
 - ▶ Datum: `NAD_1983_HARN_Wisconsin_TM`
 - ▶ WKID: 3071
 - ▶ Authority: EPSG
 - ▶ Projection: Transverse Mercator
 - ▶ False Easting: 520000.0
 - ▶ False Northing: -4480000.0
 - ▶ Central Meridian: -90.0
 - ▶ Scale Factor: 0.9996
 - ▶ Latitude of Origin: 0.0
 - ▶ Linear Unit: Meter (1.0)
 - **Note.** If your data is in a county-specific native projected coordinate system (PCS), you must first **re-project the data**. If you do not re-project before merging into the template, you may encounter the problem of your parcels being relocated to the middle of Lake Michigan (which you can check by overlaying the data to be submitted with a statewide basemap).

1.2 Geometric Specifications

- **1 Feature Class.** All available digital parcel geometries must be included as one GIS feature class for the county parcel jurisdiction.
- **Include all parcels.** File must include all available digital parcels, regardless of tax exemption status.
 - Only current parcels should be included. Historic parcels should be omitted.
- **County submits all county-wide data.** Counties should be the only entity submitting data.
 - If a municipality stewards 1) parcel data and/or 2) tax roll data separately from the county, the county should request, integrate, and submit data for the municipality that has been standardized.
- **Missing Municipal Geometries.** Counties should **not** include a municipal gap covered by a large placeholder polygon. Complete municipal data should be integrated with the county’s initial data submission.
- **Non-parcel features (ROW, GAP, HYDRO, RAIL, etc.).** Geometries that are not tax parcels, such as rights of way (ROW), gaps, or hydrography, need not join to a tax roll element. These elements, however, should be annotated with the appropriate “non-parcel” label in the PARCELID field. The PARCELID field should contain a label of the non-parcel feature. See examples in the schema definition for PARCELID.
- **One-to-One Relationship.** There must be a one-to-one relationship between parcel geometries and records in the attribute table. Each tax parcel geometry must attach to one and only one record; each record must attach to one and only one parcel. However, there are exceptions, which are detailed in section 3.1 below.

- **Condos.** In the case of condos or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry.

 **Tip:**
The CONDO STACK TOOL may help model condos by stacking condo parcel geometries by owner

- Condos may be presented with one of the following geometric representations (Figure A-1):
 - Condo Type #1–Discrete
 - Condo Type #2–Stacked
 - Condo Type #3–Divided
 - Condo Type #4–Distributed
 - Mixed Type–Condo modeling #1-4
 - Condo Type–Not Applicable

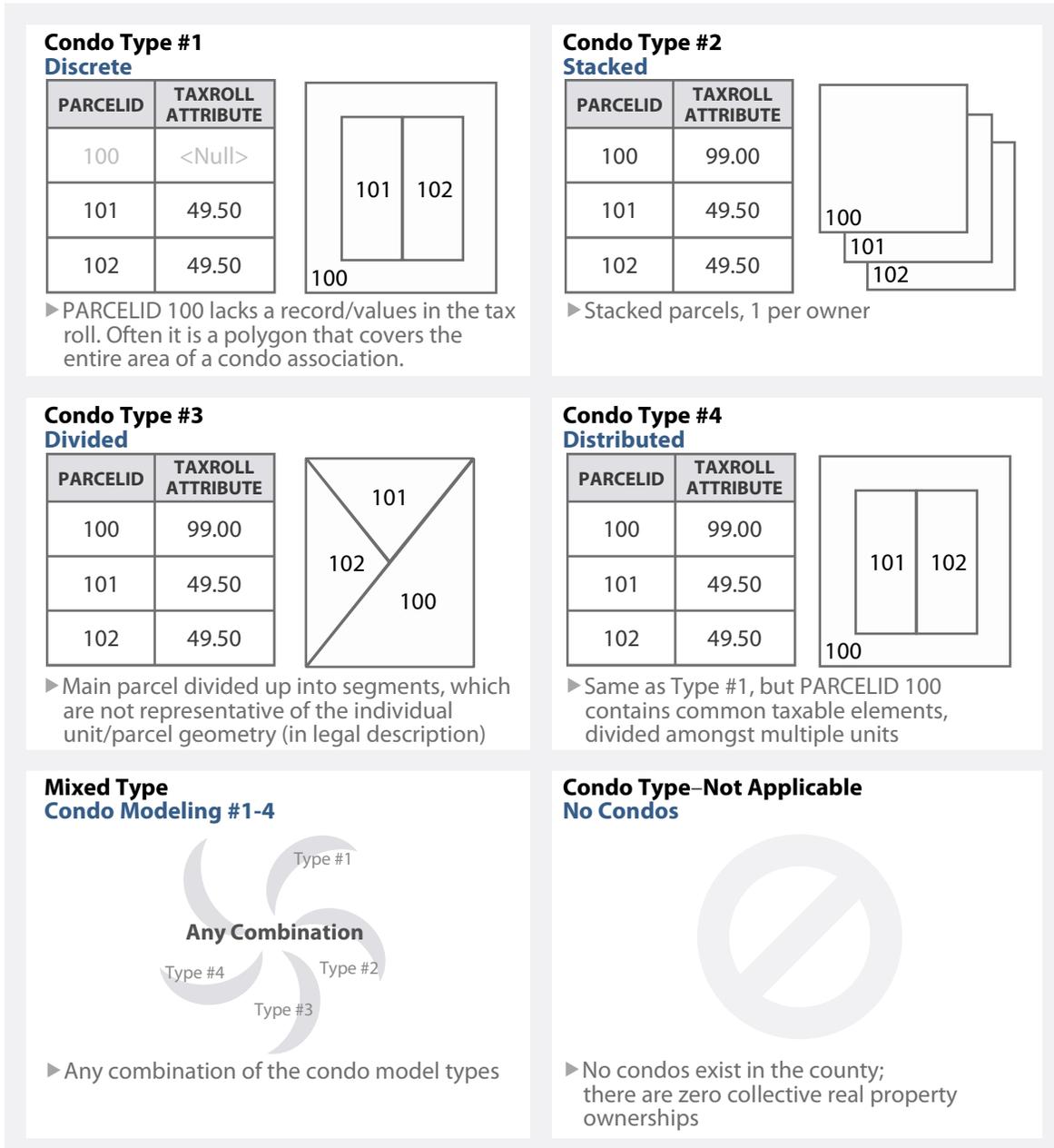


Figure A-1. Condo Model Scenarios

3. Parcel-Attribute Relationships for Searchable Format

3.1 Attaching Geometries to Attribute Records

- **One-to-one relationship.** There must be a one-to-one relationship between parcel geometries and records in the attribute table. Each parcel must attach to one, and only one, record; each record must attach to one, and only one, parcel.
 - Every record in the tax roll should attach to a parcel geometry. If a record exists in the tax roll but not in the parcel geometry, it is a missing parcel geometry. There should be no missing parcel geometries.
 - **Exceptions.** Note, there are exceptions to the one-to-one relationship rule:
 - ▶ Some tax roll elements may not be represented in the parcel layer if they do not have a digital parcel geometry created yet to join to. This might occur for the small number of counties who still have gaps in their county's digital parcel layer.
 - ▶ Some geometries may not have a tax element to join to if the parcel was recently altered. If parcel geometries are updated more frequently than the annual tax roll cycle update, missing parcel geometries can legitimately occur.
 - ▶ Legitimate conditions for exceptions to the one-to-one relationship rule:
 - **Annexations** – e.g., parcel 9-1-1 was annexed to 10-15-0
 - **Split Parcels** – e.g., parcel 9-1-1 was a 40 and has been split into four 10-acre lots, now numbers 9-1012-1; 9-1012-2; 9-1012-3; 9-1012-4, etc.
 - **Merge Parcels** – e.g., parcel 9-1-1 and 9-1-2 were merged together to one parcel, and is now known as 9-1-3
 - **Combination of Split and Merge** – e.g., parcel 9-1-1 and 9-1-2 merged together then divided into 4 lots (9-1012-1; 9-1012-2; 9-1012-3; 9-1012-4)
 - **ROW changes** – Parcel changes due to road rights of way
- In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. See Figure A-1 for acceptable geometric condo model scenarios.
 - Note that under Condo Type #1, a polygon (for a condo association) with no attribute information is acceptable.
- Multiple parcels should not be used to denote multiple site addresses, multiple owners, multiple classes of property, or any other attribute within the same real property. See the full schema in Appendix B for specifications on how to treat multiple elements per individual attribute.

4. Searchable Format Attributes

4.1 Attribute Schema Specifications

- **Standards.** The file geodatabase feature class must include an attribute table adhering to the schema specifications in Appendix B. This includes standardized field names and some standardized domains.
 - A `Parcel_Domain_List` containing acceptable values for parcel domains is available on the V4 webpage.
 - Attributes are defined in the full parcel attribute schema, Appendix B.
-  **Tip:** The DATA STANDARDIZE TOOL may help standardize a file geodatabase feature class data via the creation of a lookup table
- **All taxable real property.** The attribute table must include complete, current tax roll elements for all taxable real property in the county.
- **Parcel ID.** A parcel ID must be included that uniquely identifies each parcel via the PARCELID field.
 - **Non-Parcel Features.** Geometries that are not tax parcels, such as rights of way (ROW), gaps, or hydrography need not join to a tax roll element. These elements, however, should be annotated with the appropriate "non-parcel" label in the PARCELID field (i.e., hydrography name, "ROW," "GAP," etc.—see the PARCELID schema definition for more).
- **Handling of Multiple Values.** Multiple attribute elements within one real property must be treated according to specs described in Appendix B. Handling of multiple attribute elements is detailed per attribute in the schema.
- **Attributes Denoted by Alpha Characters as UPPERCASE Strings.** All alpha characters within the statewide database are annotated as UPPERCASE characters. Convert your alpha strings to UPPERCASE.
-  **Tip:** The NULL FIELDS AND SET TO UPPERCASE TOOL may help format all attributes within a feature class to <Null>/UPPERCASE
- **Format Currency Attributes as Numeric Values/Doubles.** All currency values (values measuring dollar amounts) are annotated in the statewide layer as **numeric values in character format** that exclude any currency formatting such as the dollar sign or comma separators such as the thousands delimiter. Decimal values are rounded up to the nearest hundredth (two decimal places to the right of the decimal) for all currency values, while measurement values (acres) should be annotated as non-rounded numbers. Currency/measurement values are also **acceptable as doubles** (double-precision floating-point number format).
- **Parsed Address Components for SITEADDRESS are Required** for the Searchable Format.
 - While PSTLADRES and SITEADDRESS are provided as a full field and not parsed, there are elements of the parcel's SITEADDRESS which should be parsed into individual elements with standardized domains.
 - ▶ Site address elements to parse are (in this order): ADDNUMPREFIX, ADDNUM, ADDNUMSUFFIX, PREFIX, STREETNAME, STREETTYPE, SUFFIX, LANDMARKNAME, UNITYTYPE, UNITID.

 **Tip:** The ADDRESS PARSING TOOL may help parse site addresses into sub-address elements

5. Element Occurrence Standard

5.1 Attribute Completeness and the Element Occurrence Standard

- **Element Occurrence Standard.** Attribute completeness is subject to the “Element Occurrence Standard.” This means that if an element (such as a property address, a total assessed value, total property tax value, etc.) actually occurs for a given parcel, then this element should be included in the submitted dataset. This also means that there may be justifiable omissions from the submitted dataset. Examples might be missing tax data for tax exempt properties, no address when no structure is present on a property, etc. Data elements must be included only if they actually occur in the county land information system.
- **All Non-Existing Values Must be Populated as <Null>.** For all instances across all fields where a data value does not exist, a true SQL <Null> should be used.
 - A true SQL <Null> should be used instead of blank fields (e.g. “”) or whitespace (e.g. “ ”).
 - A true null is not a string of text that spells out “NULL” in alpha characters.
 - A <Null> value can be calculated into a field using the *Field Calculator* with the formula pictured in Figure A-2, or use the *Null Fields and Set to UPPERCASE Tool*.
 - Note that a true <Null> is not supported by the .dbf (database) format. The database format uses blank values to indicate nulls—noteworthy, because some counties maintain tax roll data in a database format. Therefore, you will need to use a tool or manually convert nulls from database format into true SQL <Null> values in the feature class submission.
 - <Null> indicates that a data value does not exist in the database. (This should not be confused with a value of 0. A null value indicates a *lack of a value*—a lack of a value is not the same thing as a value of zero.)
 - **Use “0” versus <Null> deliberately and with care.** 0 and <Null> have distinct meanings!

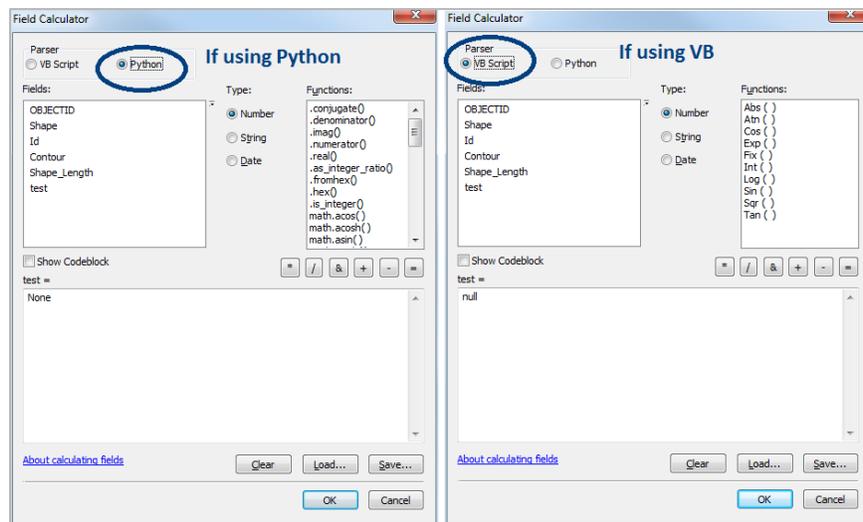


Figure A-2. Populating with <Null>

5.2 Missing Values

- **Designate Missing Values.** If a field is missing data that should be populated in-part or in the field’s entirety, the missing data should be noted in the *Explain-Certification.txt* file (inputted in FINAL mode of the Validation and Submission Tool), with a brief description of the missing data and reason for missing data. See example in Figure A-3.

```
*****
Please provide a brief explanation of any unsolvable errors, missing data, or other
issues with adhering to the submission standards here (if there are none, write NONE):
--PHYSICAL GAP PARCEL GEOMETRIES – Missing 7,000 parcel records. These parcels have
not yet been digitized.
--DEEDACRES – Missing 5,660 parcel records (within the VILLAGE OF XYZ). No DEEDACRES
values are available within VILLAGE OF XYZ for deeds predating 1985.
```

Figure A-3. Explain-Certification.txt file, with example notes on missing values

6. Searchable Format – Validation and Submission Tool + .ini Submission Form

- See the Validation and Submission Tool Guide for further instructions.

B. PARCEL SCHEMA FOR V4

Parcel Schema Legend	
V4 ELEMENTNAME	Denotes database field name
(Element Name)	Full English database field name (Alias)
[Standardized Domains]	Standardized field names and standardized domains required (with available Parcel_Domain_List)
[FGDC: <FGDC Element>]	Denotes database field name modeled after the FGDC <i>U.S. Thoroughfare, Landmark, and Postal Address Data Standard</i> . If name is different from FGDC, the FGDC element's name is also listed.
ELEMENT [AUTO-POPULATED]	Denotes that this field is AUTO-POPULATED by the V4 Project's aggregation team. These fields should be left <Null> for V4 submission.
{TEXT:<#> CHAR}	Denotes the datatype of the file (all attributes are TEXT) and the character length of the field
[CALCULATED]	Indicates an attribute that is calculated by the county, based on the value of another attribute. Applies only to the attribute IMPROVED.

STATEID [AUTO-POPULATED] (State ID) {TEXT:100 CHAR}

- This string field contains the contributing jurisdiction's FIPS code appended to the PARCELID (the unique number or identifier assigned to a parcel by the local authority). Calculate the STATEID by the following syntax:
 - ▶ <PARSELFIPS>+<PARCELID>
 - ▶ Example: If PARSELFIPS = "083" and PARCELID = "123456789," then:
STATEID = 083123456789
- Where PARSELFIPS is the three-digit **county FIPS code** from Table B-1, with leading zeros maintained in PARSELFIPS, and PARCELID is as defined below.
- **Counties include field but leave field <Null> for V4 submission.**

PARCELID (Parcel ID) {TEXT:100 CHAR}

- Unique number or identifier assigned to a parcel by the local GIS authority. The PARCELID is specific to GIS functionality and serves as the primary key to GIS joins or relationships.
- Examples (this list is **not** exhaustive):
 - ▶ **071006113329** ▶ **B-600-88**
 - ▶ **010-0640.01** ▶ **VH-747-E-28**
 - ▶ **4205** ▶ **WA0320124700**
- **PARCELID FOR NON-PARCEL FEATURES** – If the attribute element's geometry is not a parcel, then the PARCELID field should contain a label of the non-parcel feature.
- Rights of ways and hydrography polygon labels should be included with parcel feature class submission.
- Examples of PARCELID for non-parcel features (this list is **not** exhaustive):
 - ▶ PARCELID = **BALSAM LAKE** (to label a hydrography/lake polygon)
 - ▶ PARCELID = **LAKE** (to label a hydrography/lake polygon)
 - ▶ PARCELID = **HYDRO** (to label a hydro polygon)
 - ▶ PARCELID = **WATER** (to label a hydro polygon)
 - ▶ PARCELID = **ROW** (to label a street right of way polygon)
 - ▶ PARCELID = **GAP** (to label a gap in the parcel geometries)
 - ▶ PARCELID = **RAIL** (to label a railroad polygon)

TAXPARCELID (Tax Parcel ID) {TEXT:100 CHAR}

- Unique number or identifier assigned to a parcel that directly joins to the parcel numbers shown in the final taxroll.
- This ID is specific to the tax roll and serves as primary key in joining parcel geometries to tax roll.
- This ID may have commonalities with the PARCELID but is somehow distinct, or may be completely distinct from the PARCELID.
- If the TAXPARCELID is the same as PARCELID, enter a true SQL <Null>
 - ▶ TAXPARCELID must either be <Null> or different from PARCELID.
 - ▶ **In no circumstances should TAXPARCELID be a duplicate of PARCELID.**

PARCELDATE (Parcel Date) {TEXT:25 CHAR}

- Modification date for parcel **geometry**, describing when the parcel geometry was last edited or revised.
- In lieu of individual parcel date records, the parcel dataset's last known geometric editing date can be used. Such geometric edits include the following:
 - ▶ Parcel creation (date the digital geometry for the parcel came into existence)
 - ▶ Parcel division
 - ▶ Parcel merge
 - ▶ Change of parcel vertices
 - ▶ Spatial adjustment of parcel
- **Do NOT populate with the "cut date" or date the data was extracted/exported for V4 submission.**
- If no attribute is maintained for the date of last geometric revision, enter a true SQL <Null>
- Parcels migrated to (Esri) parcel fabric WITHOUT a geometric edit date/GIS parcel creation date: Enter <Null>
 - ▶ For parcels that have been revised or added to the parcel fabric since migrating, include the date of last geometric edit or creation date.

- Dates must be formatted as follows:
 - ▶ Syntax: MM/DD/YYYY
 - ▶ Example: **01/20/1984**

TAXROLLYEAR (Tax Roll Year) {TEXT:10 CHAR}

- The year of the tax roll from which tax information is procured. For V4, this should be 2017.
 - ▶ Example: **2017**
- Submitted data should be a snapshot of:
 - ▶ Parcel geometry from January 1, 2018 or more current if available
 - ▶ Tax roll data associated with the parcel as finalized in December of 2017 (based on the parcel as it existed on January 1, 2017, as assessment data lags a year behind).
- **Parcel Splits/New Parcels.** To designate a parcel that has been split or newly created:
 - ▶ It is acceptable to enter the first year tax roll data will be available in TAXROLLYEAR
 - ▶ This will be a future tax roll year ("**2018**") for new parcels that lack tax roll data for the V4 submission
 - ▶ Alternatively, it is acceptable for TAXROLLYEAR for parcel splits/new parcels to be <Null>

OWNERNAME1 (Primary Owner Name) {TEXT:254CHAR}

- The primary owner name of a parcel.
- In the case of multiple owners, if it is not clear which owner is the primary owner, discretion may be used to place an owner in this field.
- If not feasible to parse owners into separate fields, more than one owner may be included in this field.
- 2nd owner goes in OWNERNAME2; 3rd owner is omitted.
- If surnames are natively maintained in fields separate from first names, they should be concatenated and placed in the OWNERNAME1 field.
- Owner name does not follow formatting syntax and may be provided as is.
- OWNERNAME1 can be ordered in any order (First, Last, Middle Initial).
 - ▶ May or may not include middle initial.
- Owner's first and last names are provided, except in cases when owners share last names.
 - ▶ JANE AND JAMES SMITH
 - ▶ SMITH, JAMES & JANE
- OWNERNAME1 example formats:

JOHN SMITH	SMITH, JOHN R	JOHN R and SUE SMITH	SMITH, SUE & JOHN
JOHN R SMITH	JOHN R & SUE SMITH	JANE, JOHN & SUE SMITH	Other(s)
- **OWNERNAME1 – Redaction Policy**
 - ▶ Owner names are necessary for data submittal to be usable by state agencies. Any redaction of owner names, as required by an existing county or municipal policy, should be handled explicitly in the data *before* it is submitted. If any or all owner names are not included, the county must include the written policy for excluding them as adopted by the county or municipality (by link or full text) within the submission form.
 - ▶ If redaction of owner name is implemented on the submitted data, these names should be attributed as "NOT AVAILABLE" within each redacted record's OWNERNAME1 and/or OWNERNAME2 field.
 - ▶ The exception is public lands. Public lands that have a government-entity as a primary owner in the OWNERNAME1 field shall **not** be redacted.
- **OWNERNAME1 – Public Lands Policy**
 - ▶ Public lands should be designated by way of owner name in the OWNERNAME1 field
 - ▶ Example: OWNERNAME1 = DEPARTMENT OF NATURAL RESOURCES
 - ▶ All county-owned public parcels must have a value in OWNERNAME1
 - ▶ For publicly owned parcels, the same owner should be designated the same way if they own multiple parcels. In other words, standardize the owner names of public parcels.
 - ▶ Example: "ASHLAND COUNTY FOREST" every time, not interchanged with "Ashland Co. Forest"
 - ▶ For publicly-owned parcels, the order of words should be natural language order (with contiguous strings of text being next to each other)
 - ▶ Example: DEPARTMENT OF NATURAL RESOURCES
not "SOURCE DEPARTMENT OF NATURAL RE; URCH ST JOHN'S EV LUTHERAN CH"
 - ▶ **No redaction of public lands in OWNERNAME1.** Public lands that have a government-entity (federal, state, county, or local) as a primary owner in the OWNERNAME1 field shall **not** be redacted.

OWNERNAME2 (Secondary Owner Name) {TEXT:254 CHAR}

- If available. The secondary owner name of a parcel.
- 2nd owner goes in OWNERNAME2; 3rd owner is omitted.
 - ▶ If there are more than two total owners exist for the property, discretion may be used to select the first two owners for the purpose of populating OWNERNAME1 and OWNERNAME2. Remaining owner names will not be included in the dataset.
 - ▶ In the case of multiple owners, if it is not clear which owner is the secondary owner, discretion may be used to place an owner in this field.
- If not feasible to parse owners into separate fields, more than one owner may be included in this field.
- Owner name does not require formatting and may be provided as is.
- When possible, OWNERNAME2 should not be an overflow from OWNERNAME1.
- OWNERNAME2 Redaction Policy – OWNERNAME2 adheres to the same redaction policy as that of OWNERNAME1.

PSTLADDRESS (Full Mailing Address) {TEXT:200 CHAR}

- The primary **owner's full mailing address** or the full mailing address for the tax bill associated with the parcel, whichever is available.
- PSTLADDRESS may have nothing to do with the physical location of a parcel, and may be outside of Wisconsin.
- PSTLADDRESS is a **single field** comprised of:
 - ▶ Address Number Prefix*, Address Number, Address Number Suffix*, Prefix*, Street Name, Street Type*, Suffix*, Unit Type*, Unit ID*, USPS Postal Place Name, State, and Zip Code. (*Where applicable)
 - ▶ If owner mailing address is maintained as two lines (e.g., as two separate mailing label lines), it should be concatenated into one field.
 - ▶ A comma (",") is the preferred separator element, or a space (" ") is an acceptable separator element.
 - ▶ Example – Single-line with comma separator: **123 N MAIN ST, MIDTOWN, WI, 53611**
 - ▶ Example – Single-line concatenated from 2 lines: **123 N MAIN ST MIDTOWN WI 53611**
- **Domain standardization optional.** Owner's mailing address can contain elements with non-standardized domains.
 - ▶ Standard USPS Postal domains/**abbreviations are acceptable** in the owner's mailing address.
- **No partial addresses.** If mailing address in the native data is partial and not a full mailing address, do **not** submit mailing addresses for those specific parcels.
 - ▶ Incorrect: CITY, STATE, ZIP ▶ enter <Null> instead
 - ▶ Incorrect: GILMAN, WI, 54433 ▶ enter <Null> instead
 - ▶ Incorrect: NA, NA, GILMAN, WI, 54433 ▶ enter <Null> instead
 - ▶ Incorrect: STATE, ZIP ▶ enter <Null> instead
 - ▶ Incorrect: STATE, 00000 ▶ enter <Null> instead
- If there is no full owner mailing address, PSTLADDRESS should be populated with a true SQL <Null>
- **PSTLADDRESS – Public Lands Policy**
 - ▶ For county-owned public parcels, enter either a full mailing address for the county, or for the appropriate county department. Enter address uniformly if the same entity owns more than one parcel.
 - ▶ For publicly owned parcels, it is acceptable to enter the full mailing address of the parcel steward's central administration. Enter address uniformly if the same entity owns more than one parcel.
 - ▶ If mailing address in the native data is partial and not a full mailing address, do **not** submit partial mailing addresses for those specific parcels. Full mailing addresses only.
 - ▶ If no mailing address is available for publicly-owned parcels, enter <Null>

SITEADDRESS (Full Physical Address) [Standardized Domains – when broken into individual elements] {TEXT:200 CHAR}

- The full physical address (or site address) of a parcel.
- A **single field** comprised of the following elements:
 - ▶ **ADDNUMPREFIX***
 - ▶ **ADDNUM**
 - ▶ **ADDNUMSUFFIX***
 - ▶ **PREFIX*** [Standardized Domains – when broken into individual element]
 - ▶ **STREETNAME**
 - ▶ **STREETTYPE*** [Standardized Domains – when broken into individual element]
 - ▶ **SUFFIX*** [Standardized Domains – when broken into individual element]
 - ▶ **UNITTYPE***
 - ▶ **UNITID***

*Where applicable
City, State, Zip ▶ **Do NOT include "city, state, zip"** anywhere in SITEADDRESS
- If site address is maintained as elements in multiple fields, it should be concatenated into one field. Line breaks/carriage returns are not accepted.
 - ▶ Example – **N472.5 N JOHNSON STREET**
 - ▶ Example – **543 CTH MM N SUITE 101**
- Only include primary address; 2nd address is omitted.
 - ▶ If there are more than two physical addresses associated with a parcel, such as with an apartment, then a valid primary address is to be used, if available. Such an example of this would be an apartment's on-site office address. Alternatively, discretion may be used to select one "primary" physical address for the parcel.
- Address ranges are not accepted. Field should not have multiple address numbers.
- **Domain standardization optional.** Full physical address in SITEADDRESS can contain elements with non-standardized domains. However, individual address elements require domain standardization in their respective fields.
 - ▶ Standard USPS Postal domains/**abbreviations are acceptable** in SITEADDRESS.
- When a true site address does not exist, populate with <Null>

ADDNUMPREFIX (Address Number Prefix) [FGDC] {TEXT:50 CHAR}

- The portion of the complete address number which precedes the address number itself.
- In Wisconsin, this field is of particular interest due to grid address examples, such as "**W180N**8085 TOWN HALL ROAD." Other examples include ordinal directions as a prefix to the address number, such as "**N2554** JOHNSON STREET"
 - ▶ W180N
 - ▶ N
 - ▶ S379W
 - ▶ S

ADDNUM (Address Number) [FGDC] {TEXT:50 CHAR}

- The whole number component of a posted building identifier.
- Address numbers should always be whole numbers.
 - ▶ 2554
 - ▶ 8085
 - ▶ 4215
 - ▶ 10
- ADDNUM should not be a range. Address ranges (listing one number through a second number) are not accepted.
 - ▶ If there are multiple address numbers, select the primary address number (such as the first number in the range) and remove all secondary address numbers from ADDNUM.

ADDNUMSUFFIX (Address Number Suffix) [FGDC] {TEXT:50 CHAR}

- Rarely used extension of the address number for a posted building identifier.
- Not to be confused with unit divisions within a building (UNITID).
- Examples and contexts:
 - ▶ **A** ▶ (798 **A** 26TH STREET)
 - ▶ **-856** ▶ (2554-**856** MAIN STREET)
 - ▶ **½** ▶ (678 **½** MORRISON STREET)
 - ▶ **.5** ▶ (6895.**5** GORHAM STREET)
- Uncommon – For alpha characters that are part of the actual address number—and **not** a street directional prefix, the alpha characters may be put in ADDNUMSUFFIX
 - ▶ Address = 1234**N** E ISLAND LAKE RD
 - ▶ ADDNUM = 1234
 - ▶ **ADDNUMSUF = N**
 - ▶ PREFIX = E
 - ▶ STREETNAME = ISLAND LAKE
 - ▶ STREETTYPE = ROAD

PREFIX (Prefix) [Standardized Domains] [FGDC: Street Name Pre Type; Street Name Pre Directional] {TEXT:50 CHAR}

- One letter street direction or abbreviation that precedes the street name.
- This field also contains the highway jurisdiction indicator for any Wisconsin highways. See examples below for highway classification context and standardization.

PREFIX domains for street name pre directionals – Abbreviated

N	NW
S	SW
E	NE
W	SE

PREFIX domains for Highways – Abbreviated as below OR fully spelled out as below

CTH	COUNTY HIGHWAY	COUNTY ROAD
N CTH	N COUNTY HIGHWAY	N COUNTY ROAD
E CTH	E COUNTY HIGHWAY	E COUNTY ROAD
S CTH	S COUNTY HIGHWAY	S COUNTY ROAD
W CTH	W COUNTY HIGHWAY	W COUNTY ROAD
STH	STATE HIGHWAY	STATE ROAD
N STH	N STATE HIGHWAY	N STATE ROAD
E STH	E STATE HIGHWAY	E STATE ROAD
S STH	S STATE HIGHWAY	S STATE ROAD
W STH	W STATE HIGHWAY	W STATE ROAD
USH	US HIGHWAY	
N USH	N US HIGHWAY	
E USH	E US HIGHWAY	
S USH	S US HIGHWAY	
W USH	W US HIGHWAY	

INTERSTATE

- ▶ Highways – highway prefixes can either be fully spelled-out OR abbreviated as above.
- ▶ Highways – any of the following are acceptable in PREFIX:
 - ▶ **COUNTY HIGHWAY / COUNTY ROAD / CTH**
 - ▶ **STATE HIGHWAY / STATE ROAD / STH**
 - ▶ **US HIGHWAY / USH**
 - ▶ “COUNTY” by itself is **not** an acceptable prefix
 - ▶ Usage should be consistent throughout the countywide dataset. Do not use multiple highway domain spelling conventions to designate the same particular highway type.
- Highway classification examples in context:
 - ▶ For address: 2554 **COUNTY HIGHWAY C**
 - ▶ PREFIX = COUNTY HIGHWAY
 - ▶ STREETNAME = C

- ▶ For address: "2554 **COUNTY HIGHWAY** C/H"
 - ▶ PREFIX = COUNTY HIGHWAY
 - ▶ STREETNAME = C/H
- ▶ For address: "2554 **S STATE HIGHWAY** XX"
 - ▶ PREFIX = S STATE HIGHWAY
 - ▶ STREETNAME = XX
- Road "alias" names should **not** be included in the STREETNAME field alongside a highway PREFIX and route ID.
 - ▶ For example, for address: "2554 COUNTY HIGHWAY C/MAIN ST"
 - ▶ PREFIX = COUNTY HIGHWAY; STREETNAME = C (The street name here would be incorrect as "C/MAIN")
 - Or:
 - ▶ STREETNAME = MAIN; STREETTYPE = STREET

STREETNAME (Street Name) [FGDC: Street Name; Street Name Pre Modifier; Street Name Post Modifier] {TEXT:50 CHAR}

- Primary street name.
- The legal street name as assigned by local address authority.
- STREETNAME does **not** include the street type of a named street.
- STREETNAME does **not** include the suffix direction of a coordinate street. Suffix direction belongs in SUFFIX.
- STREETNAME might incorporate a *Street Name Pre Modifier* and/or a *Street Name Post Modifier* (which do not have their own separate fields). In some cases, *Street Name Pre Modifier* might be acceptable in PREFIX field.
- For highways or county roads that share more than one route number or letter (e.g., USH **151/51**), these routes are listed with a delimiter
 - ▶ A forward slash ("/") is the preferred route delimiter, or a hyphen ("-") is an acceptable delimiter.
- STREETNAME does **not** include street aliases.
 - ▶ For example: 2554 STH 23/MAIN ST
 - ▶ Contains a state highway street name ("23") OR the local street name ("MAIN"), but not both.
 - ▶ "23/MAIN" would be incorrect as the street name.
- Do not include PREFIX values still attached to this field (e.g., CTH, STH, USH, etc.)
- Do not include STREETTYPE values in street name.
- Do not include extraneous information attached to STREETNAME, such as building descriptors.
- STREETNAME examples (in bold):
 - ▶ **MAIN STREET**
 - ▶ 4215 W **112TH STREET**
 - ▶ N54W16164 W **BECKER LANE**
 - ▶ 199 USH **151 SOUTH**
 - ▶ 1505 USH **151/51**
 - ▶ 111 #20 **JOHNSON STREET**
 - ▶ 134 CTH **A/D**

STREETTYPE (Street Type) [Standardized Domains] [FGDC: Street Name Post Type] {TEXT:50 CHAR}

- Street type of a named street (for the site address) written to full name of type:
 - ▶ E WASHINGTON **ROAD**
- **Fully spell-out** STREETTYPE domains.
- Abbreviations are **not** acceptable in STREETTYPE (even if they are standard USPS Postal domains).
- STREETTYPE example domains (this list is not exhaustive):

ACCESS	CRESCENT	HEIGHTS	PASS	SPRINGS
ACRES	CREST	HIGHWAY*	PASSAGE	SPUR
ALLEY	CROSS	HILL	PATH	SQUARE
AVENUE	CROSSING	HILLS	PATHWAY	STREET
BAY	CURVE	HOLLOW	PIKE	STRIP
BEACH	DALE	ISLAND	PLACE	SUMMIT
BEND	DRIVE	ISLE	PLAZA	TERRACE
BLUFF	END	JUNCTION	POINT	TOWER
BOULEVARD	ESTATE	KNOLL	PRAIRIE	TRACE
BRANCH	ESTATES	KNOLLS	PRIVATE DRIVE	TRAIL
BYPASS	EXPRESSWAY	LAKE	RAPIDS	TRAILS
CAUSEWAY	EXTENSION	LANDING	RESERVE	TRAILWAY
CENTER	FIELDS	LANE	RETREAT	TURN
CHASE	FOREST	LOOP	RIDGE	TURNPIKE
CIRCLE	FORK	MALL	ROAD	VALE
CLIFF	GARDENS	MANOR	ROUND	VALLEY
CLOSE	GATE	MEADOW	ROW	VIEW
COMMON	GATEWAY	MEADOWS	RUN	VISTA
COMMONS	GLENN	MEWS	SCHOOL	WALK
COURSE	GREEN	NEST	SETTLEMENT	WAY
COURT	GROVE	OVERLOOK	SHORE	WELLS
COVE	HARBOR	PARK	SHORES	
CREEK	HAVEN	PARKWAY	SPRING	

- *Note that "Highway" is seldom a STREETTYPE, as it is most often a PREFIX.

SUFFIX (Street Name Post Directional) [Standardized Domains] [FGDC: Street Name Post Directional; Street Name Post Modifier] {TEXT:50 CHAR}

- Street name post directional.
- One letter street direction that follows the street name.
 - ▶ MAIN STREET **NW**
- In rare cases, SUFFIX field may incorporate a *Street Name Post Modifier*.
- **Abbreviate directionals.**
- SUFFIX accepted domains (this list is not exhaustive):
 - N** North
 - S** South
 - E** East
 - W** West
 - NW** North West
 - SW** South West
 - NE** North East
 - SE** South East

LANDMARKNAME (Landmark Name) [FGDC] {TEXT:50 CHAR}

- The common place name of a parcel feature.
 - ▶ WISCONSIN STATE CAPITOL
 - ▶ EAST ENTRANCE - IRVINE PARK
- Provided as available.

UNITTYPE (Unit Type) [FGDC: Subaddress Type] {TEXT:50 CHAR}

- Indicates the unit type associated with a parcel feature (e.g., apartment, room, suite, unit, etc.). Provided as available.
- UNITTYPE should not contain any type of property/structure descriptor.
- **Fully spell-out** UNITTYPE domains.
- UNITTYPE example domains (this list is not exhaustive):

APARTMENT	DEPARTMENT	LOT	SEAT	TOWER
BASEMENT	FLOOR	LOWER	SIDE	TRAILOR
BERTH	FRONT	OFFICE	SLIP	TRAILER
BLOCK	HANGAR	PENTHOUSE	SPACE	UNIT
BUILDING	HANGER	PRIVATE MAIL BOX	STOP	UPPER
CONDOMINIUM	KEY	PIER	STORY	WING
CORRIDOR	LEVEL	REAR	SUITE	
CUBICLE	LOBBY	ROOM	TERMINAL	

UNITID (Unit ID) [FGDC: Subaddress Identifier] {TEXT:50 CHAR}

- UNITID includes the number or letter identification string for a building, apartment, room, suite, unit, room, or desk (as well as other examples).
- Not to be confused with ADDNUMSUFFIX, which is a component to the address number.
- UNITID delineates a unit within an address.
 - ▶ Example: "123 ½ APARTMENT **A**"
 - ▶ ADDNUM = 123
 - ▶ ADDNUMSUFFIX = ½
 - ▶ UNITTYPE = APARTMENT
 - ▶ UNITID = **A**
- If parcels such as condos have distinct PARCELID values and same SITEADDRESS values, UNITID must be populated for these records.
- UNITID should not contain any property/structure descriptions.
- UNITID should **not** contain any values which belong in UNITTYPE (e.g., words like "APARTMENT" or "UNIT").

PLACENAME (Place Name) [FGDC: Complete Place Name] {TEXT:100 CHAR}

- The name of the authoritative jurisdiction that the parcel belongs to.
- This is **NOT the USPS Postal place name** of the parcel, instead, it is the city/village/town where the parcel is actually located; the jurisdictional place name.
 - ▶ The jurisdictional place name for a parcel is **not** necessarily the same as the USPS postal place name.
 - ▶ Note. The parcel's USPS Postal place name is **not** required in this field, nor anywhere else in the V4 schema.
 - ▶ USPS place name is a place name listed in the USPS *City State* file for delivery of mail to an address. Although preferred for postal operations, USPS place names are often not the best-suited place names for non-postal purposes—such as navigation, public service delivery, emergency response, etc.—where jurisdictional place name may be preferred.
- Each PLACE NAME should be standardized to **include the following LSAD descriptors**, as appropriate:
 - ▶ LSAD descriptors:
 - ▶ **CITY OF**
 - ▶ **TOWN OF**
 - ▶ **VILLAGE OF**
 - ▶ PLACENAME examples:
 - ▶ CITY OF CHIPPEWA FALLS
 - ▶ TOWN OF MADISON
 - ▶ CITY OF MADISON
 - ▶ VILLAGE OF LAKE HALLIE
- *All* parcels must have a PLACENAME value, even parcels that have not been assigned an address.

ZIPCODE (Zip Code) [FGDC: ZIP Code] {TEXT:50 CHAR}

- The 5-digit zip code for the parcel's site address.
- This is the mailing zip code for the parcel itself (NOT the owner, whose zip code is provided in PSTLADDRESS and may be out-of-state).
- Provided where available.
- Enter <Null> if no zip code for the parcel's site address is maintained.

ZIP4 (Zip Code Plus 4) [FGDC: ZIP Plus 4] {TEXT:50 CHAR}

- The 4 additional digits appended to the 5-digit zip code for the parcel's site address.
- This is the mailing zip4 for the parcel itself (NOT the owner, whose zip code is provided in PSTLADDRESS and may be out-of-state).
- Provided where available.
- Enter <Null> if no zip4 for the parcel's site address is maintained.

STATE (State) [FGDC: State Name] {TEXT:50 CHAR}

- Two letter state abbreviation of a parcel feature's physical site address.
 - ▶ **WI**
- This is the state where the parcel itself is located (NOT the owner, whose mailing address in PSTLADDRESS may be out-of-state).
- Unless parcels are outside of the state of Wisconsin, this value will be "WI"

SCHOOLDIST (School District) [Standardized Domains] {TEXT:50 CHAR}

- The school district name, as defined in the authoritative file at: sco.wisc.edu/parcels/Parcel_Domain_List.xlsx
 - ▶ **LITTLE CHUTE AREA SCHOOL DISTRICT**
- All parcels for a given county should be populated with SCHOOLDIST domains (with the possible exception of non-parcel features, designated as such in the PARCELID field).
- Domains must remain in UPPERCASE.
- Domain for district name should **exactly** match the domain list with the words "SCHOOL DISTRICT" at the end, separated by a space.
- A parcel should never contain multiple school districts.
 - ▶ For areas that apply a Union High School (UHS) district, the UHS district should be the district populating this field. Elementary districts within a UHS are known as "children" of the "parent" UHS district and should not be included in the data submission.

SCHOOLDISTNO (School District Number) [Standardized Domains] {TEXT:50 CHAR}

- The 4-digit school district number, as defined in the authoritative file at: sco.wisc.edu/parcels/Parcel_Domain_List.xlsx
- All parcels for a given county should be populated with SCHOOLDISTNO domains (with the possible exception of non-parcel features, designated as such in the PARCELID field).
- Domains must remain as four-digit IDs and **maintain leading zeros**.
 - ▶ Include the leading zero(s) on school district codes
 - ▶ e.g., **0084**
- A parcel should never contain multiple school districts.
 - ▶ For areas that apply a Union High School (UHS) district, the UHS district should be the district populating this field. Elementary districts within a UHS are known as "children" of the "parent" UHS district and should not be included in the data submission.
- Note that DOR's electronic file utilizes a 6-digit code.

- ▶ If you are submitting from DOR's XML, use the Validation and Submission Tool to remove the first two digits for submission, or manually remove the first two digits (representing the alphabetized WI county name).
 - ▶ e.g., **0070**, not **310070**

→ **IMPROVED** (Improved Structure) [CALCULATED] [Standardized Domains] {TEXT:10 CHAR}

- Indicates whether the parcel contains an improved value within the IMPVALUE field, with either "YES" or "NO"
- CALCULATED by the county, based on the type of value in IMPVALUE.
- IMPROVED accepted domains:
 - YES** if IMPVALUE is > \$0
 - NO** if IMPVALUE is = \$0 ▶ Value of "NO" (IMPVALUE of \$0) might apply to parcels with no improvements
 - <Null>** if IMPVALUE is <Null> ▶ Might apply to tax exempt parcels, designated by AUXCLASS field
 - ▶ Applies to non-parcel features as labeled in PARCELID—such as GAP, HYDRO, SLIVER, etc.

CNTASSDVALUE (Total Assessed Value) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The total assessed value of the parcel, in US dollars.
- Assessed values are the property values determined by local assessors for individual parcels of real property.
- In most counties, this is equal to assessed value of land plus assessed value of improvements, or:
 - ▶ <LNDVALUE> + <IMPVALUE>
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For tax exempt properties, enter <Null>

LNDVALUE (Assessed Value of Land) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The total value of land, without improvements, in US dollars.
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For tax exempt properties, enter <Null>

→ **IMPVALUE** (Assessed Value of Improvements) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The total value of improvements on the land, in US dollars.
- The value in IMPVALUE is used to calculate the value (YES/NO) in IMPROVED.
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- Use "0" versus <Null> deliberately and with care in IMPVALUE field. 0 and <Null> have distinct meanings.

>0	▶ Taxable parcel with improvements	▶ A positive number in IMPVALUE
0	▶ Taxable parcel with <u>no</u> improvements	▶ Value of "0" or 0.00 in IMPVALUE
- <Null>**
 - ▶ Tax exempt parcels, designated by AUXCLASS field
 - ▶ Non-parcel features as labeled in PARCELID
 - ▶ Parcels yet to be assessed (e.g., a new parcel/split)

FORESTVALUE (Assessed Forested Value) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- ***If* part of the CNTASSDVALUE equation.**
- The total value of forested land (assessed value of forested land), in US dollars.
- This field is **not** applicable to most counties, as values in this field are required to be provided only in cases where counties have a "forest value" included as a part of the formula that totals the amount of CNTASSDVALUE.
- A county **MUST** populate this field **IF** Assessed Forest Value is a variable within the Total Assessed Value formula (CNTASSDVALUE), otherwise this field is optional.
 - ▶ e.g., Assessed Value of Land + Assessed Value of Improvements + **Assessed Forest Value** = Total Assessed Value
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For counties lacking assessed forested land parcels, this field will be <Null>

ESTFMKVALUE (Estimated Fair Market Value) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The estimated fair market value, in US dollars.
- Sometimes referred to as “equalized value.”
- $ESTFMKVALUE = \text{Total Assessed Value} \div \text{Assessment Ratio}$ (where Assessment Ratio is provided by the state Department of Revenue).
 - ▶ Note that there are deviations from this formula.
 - ▶ Agricultural parcels – portions of parcels that are **Agricultural** (PROPCLASS = 4) are assessed at “use value” therefore, $ESTFMKVALUE = \text{<Null>}$
 - ▶ Undeveloped/Agricultural Forest parcels – portions of parcels that are Undeveloped (PROPCLASS = 5) or Agricultural Forest (PROPCLASS= 5M) are assessed at 50% of full market value.
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 300000.98 (Not \$300,000.98)
 - ▶ 100780.65 (Not 100780.649)
- For tax exempt properties (designated by AUXCLASS field), enter <Null>

NETPRPTA (Net Property Tax) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The net amount of annual property tax, in US dollars. This is the actual property tax paid after deductions or credits are applied.
- $NETPRPTA = \text{Gross property tax} - \text{(reduced by) state property tax credits}$.
- NETPRPTA should always be less than or equal to GRSPRPTA for any given property.
 - ▶ NETPRPTA should reflect only property tax amounts.
 - ▶ NETPRPTA should **not** include special charges such as delinquent utility charges from prior years (which can make NETPRPTA erroneously appear larger than GRSPRPTA).
 - ▶ If NETPRPTA cannot be provided without delinquent charges, do one of two things:
 - 1) <Null> out NETPRPTA for the appropriate records, or
 - 2) Populate NETPRPTA, but provide an explanation of delinquent charges, noting that “non-annual tax” values are included in the **Explain-Certification.txt** section of the submission form.
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 3670.98 (Not \$3,670.98)
 - ▶ 1780.65 (Not 1780.649)
- For parcels “assessed with” other parcels, this value may be <Null>
- For tax exempt properties, enter <Null>
- Provide at least one—NETPRPTA or GRSPRPTA.
 - ▶ NETPRPTA may be <Null> if GRSPRPTA is populated for a given county.

GRSPRPTA (Gross Property Tax) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The gross amount of annual property tax, in US dollars. This is the total property tax before deductions or credits; the sum of the taxes levied on a property by all local taxing jurisdictions (municipalities, counties, school districts, technical college districts, and special purpose districts).
- GRSPRPTA should always be more than or equal to NETPRPTA for any given property.
- The value should be provided without currency formatting such as the dollar sign and without comma separators such as the thousands delimiter. Decimal values should be rounded up to the nearest hundredth (two decimal places to the right of the decimal).
 - ▶ 3670.98 (Not \$3,670.98)
 - ▶ 1780.65 (Not 1780.649)
- For tax exempt properties, enter <Null>
- Provide at least one—NETPRPTA or GRSPRPTA.
 - ▶ GRSPRPTA may be <Null> if NETPRPTA is populated for a given county.

PROPCLASS (Class of Property) [Standardized Domains] {TEXT:150 CHAR}

- The General class of property for **taxable** real estate, as specified in Wisconsin s. 70.32(2)(a).
- Wisconsin law requires assessors to classify land on the basis of use. Sometimes this involves a judgment of the predominant use. There are eight statutory classifications for real property.
- Domains should either match the 8 classes listed as PROPCLASS domains for taxable properties, OR have a <Null> value for PROPCLASS and a value in AUXCLASS field for tax exempt/special properties (with the exception of non-parcel features, designated as such in PARCELID field).
- **Multiple values.** If more than one class exist for a parcel, each class is listed in PROPCLASS field delimited by commas, as in:
 - ▶ **1,3,4**
 - ▶ **3,4,5M**
 - ▶ List each class once only. No duplicate values.
- If the native data contains a preceding "G" in front of the numeric ID, **this "G" should be omitted** ("3" not "G3").
- If native PROPCLASS domains do not exactly match standard schema domains, provide domains in **Explain-Certification.txt** portion of submission form or provide a web link to a file describing PROPCLASS fields.
- PROPCLASS accepted domains and definitions:

1	Residential	General – Taxable Real Estate
2	Commercial	General – Taxable Real Estate
3	Manufacturing	General – Taxable Real Estate
4	Agricultural	General – Taxable Real Estate
5	Undeveloped	General – Taxable Real Estate
5M	Agricultural forest	General – Taxable Real Estate
6	Productive Forest Land	General – Taxable Real Estate
7	Other	General – Taxable Real Estate



Tip:

The CLASS OF PROPERTY DISSOLVE TOOLSET may help format class of property data to these schema

AUXCLASS (Auxiliary Class of Property) [Standardized Domains] {TEXT:150 CHAR}

- This field contains any domains that are listed in the native dataset as a class of property that does not fit the domains specified in s. 70.32(2)(a), including properties classified in the tax roll as Tax Exempt/Special.
 - ▶ Exempt – defined as federal, state, county, and other-tax exempt
 - ▶ Special – designating Private Forest Cropland, Managed Forest Land, and County Forest Crop Property
- Standard domains apply to properties in the Exempt and Special classifications.
- Domains should either match the those listed as AUXCLASS domains, OR have a <Null> value for AUXCLASS and a value in PROPCLASS field (with the exception of non-parcel features, designated as such in PARCELID field).
 - ▶ Any native domains other than those listed within the standard Exempt/Special fields may be left unstandardized within this field, but MUST be defined in **Explain-Certification.txt** portion of submission form.
- Any classes that meet the definition of class of property specified in s. 70.32(2)(a) are not included in the AUXCLASS field—instead belonging in PROPCLASS.
- **Multiple values.** Listed if more than one exists and delimited by commas.
 - ▶ If multiple AUXCLASSES classes exist upon a give parcel, each class is listed within the AUXCLASS field, delimited by commas, as in:
 - ▶ **X1,W3,X4**
 - ▶ **X3,W5**
- **AUXCLASS EXEMPT** accepted domains and definitions:

X1	Federal	Exempt – Exempt from General Property Taxes
X2	State	Exempt – Exempt from General Property Taxes
X3	County	Exempt – Exempt from General Property Taxes
X4	Other exempt	Exempt – Exempt from General Property Taxes
- **AUXCLASS SPECIAL** accepted domains and definitions:

W1	PFC Regular Class1 - Forest Cropland Before 01/01/72	Special – PFC, MFL and County Forest Crop Property
W2	PFC Regular Class2 - Forest Cropland After 01/01/72	Special – PFC, MFL and County Forest Crop Property
W3	PFC Special Class - Forest Cropland Special	Special – PFC, MFL and County Forest Crop Property
W4	County Forest Crop Land	Special – PFC, MFL and County Forest Crop Property
W5	MFL Before 2005 Open	Special – PFC, MFL and County Forest Crop Property
W6	MFL Before 2005 Closed	Special – PFC, MFL and County Forest Crop Property
W7	MFL After 2004 Open	Special – PFC, MFL and County Forest Crop Property
W8	MFL After 2004 Closed	Special – PFC, MFL and County Forest Crop Property
W9	MFL Ferrous Mining	Special – PFC, MFL and County Forest Crop Property
- **AUXCLASS UNSTANDARDIZED**
<Unstandardized> Other classifications not included in the definition of AUXCLASS or PROPCLASS. Provide definitions in the **Explain-Certification.txt** section of the submission form, inputted in FINAL mode of the Validation and Submission Tool.

ASSDACRES (Assessed Acres) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The parcel area, in acres, specified as total assessed acres for taxation purposes.
- ASSDACRES is not to be confused with DEEDACRES or GISACRES, but may match either or both.
- For parcels “assessed with” other parcels, this value may be <Null>
- Enter <Null> if the local assessor does not provide acre calculations for small parcels.
 - ▶ Parcels less than <1 acre may = <Null> (or in some cases may appear as “0”)

DEEDACRES (Deeded Acres) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The parcel area, in acres, as specified within the legal property description.

GISACRES (GIS Acres) {TEXT:50 CHAR or DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The calculated GIS parcel area, in acres, derived directly from GIS features.
- GISACRES is optional and may be left <Null>

CONAME (County Name) [Standardized Domains] {TEXT:50 CHAR}

- The name of the **county** which the parcel is administratively part of.
- Counties should be the only entity submitting data.
 - ▶ If a municipality stewards 1) parcel data and/or 2) tax roll data separately from the county, the county should request, integrate, and submit data for the municipality **that has been standardized**.
- Periods are **not** permitted in county names in the CONAME field. Spaces are acceptable. See Table B-1 for county spelling conventions.
- Do **not** include the word “_County” in CONAME.

LOADDATE [AUTO-POPULATED] (Load Date) {TEXT:10 CHAR}

- The date (MM/DD/YYYY) when a parcel feature is submitted to the Parcel Initiative from the data contributor. This field will be populated by the parcel aggregation team.
- **Counties include field but leave field <Null> for V4 submission.**

PARCELFIPS (Parcel Source FIPS) [Standardized Domains] {TEXT:10 CHAR}

- Indicates the 3-digit FIPS code of the **county**(the contributing jurisdiction of the parcel dataset), from Table B-1.
- Populate PARCELFIPS for all records. The value should be the same for all records.
- Maintain FIPS code leading zeros in PARCELFIPS.
- Domain example:
 - ▶ **009** (for Brown County)

PARCELSRC (Parcel Source Name) [Standardized Domains] {TEXT:50 CHAR}

- Indicates name of the **county** (the contributing jurisdiction of the parcel dataset), standardized as shown in Table B-1.
- Populate PARCELSRC for all records. The value should be the same for all records.
- Periods are **not** permitted in county names in the PARCELSRC field. Spaces are acceptable.
- Do **not** include the word “_County” in PARCELSRC.

COUNTY NAMES & COUNTY FIPS CODES

- Spelling conventions and county FIPS codes (which should maintain leading zeroes):

ADAMS	001	IOWA	049	POLK	095
ASHLAND	003	IRON	051	PORTAGE	097
BARRON	005	JACKSON	053	PRICE	099
BAYFIELD	007	JEFFERSON	055	RACINE	101
BROWN	009	JUNEAU	057	RICHLAND	103
BUFFALO	011	KENOSHA	059	ROCK	105
BURNETT	013	KEWAUNEE	061	RUSK	107
CALUMET	015	LA CROSSE	063	ST CROIX	109
CHIPPEWA	017	LAFAYETTE	065	SAUK	111
CLARK	019	LANGLADE	067	SAWYER	113
COLUMBIA	021	LINCOLN	069	SHAWANO	115
CRAWFORD	023	MANITOWOC	071	SHEBOYGAN	117
DANE	025	MARATHON	073	TAYLOR	119
DODGE	027	MARINETTE	075	TREMPEALEAU	121
DOOR	029	MARQUETTE	077	VERNON	123
DOUGLAS	031	MENOMINEE	078	VILAS	125
DUNN	033	MILWAUKEE	079	WALWORTH	127
EAU CLAIRE	035	MONROE	081	WASHBURN	129
FLORENCE	037	OCONTO	083	WASHINGTON	131
FOND DU LAC	039	ONEIDA	085	WAUKESHA	133
FOREST	041	OUTAGAMIE	087	WAUPACA	135
GRANT	043	OZAUKEE	089	WAUSHARA	137
GREEN	045	PEPIN	091	WINNEBAGO	139
GREEN LAKE	047	PIERCE	093	WOOD	141

Table B-1. V4 County Naming and FIPS Codes

LONGITUDE [AUTO-POPULATED] (Longitude of Parcel Centroid) {DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The longitude, in decimal degrees, of the parcel's centroid. The centroid of a parcel shape is calculated as is the average position of all the points that participate in the shape.
 - This point is also calculated as and "inside" centroid, meaning that the point is subject to the following contextual qualities:
 - ▶ A non-convex (concave) feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A donut-shaped feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A multi-part feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - In the final statewide parcel layer, LONGITUDE and LATITUDE for parcel centroids are provided in **decimal degrees**. The parcel centroids are calculated using an ArcGIS ArcPy script, created using ArcGIS's default WGS 84 parameters:
 - ▶ GCS_WGS_1984
 - ▶ WKID: 4326 Authority: EPSG
 - ▶ Angular Unit: Degree (0.0174532925199433)
 - ▶ Prime Meridian: Greenwich (0.0)
 - ▶ Datum: D_WGS_1984
 - ▶ Spheroid: WGS_1984
 - ▶ Semimajor Axis: 6378137.0
 - ▶ Semiminor Axis: 6356752.314245179
 - ▶ Inverse Flattening: 298.257223563
- ▶ **Counties do NOT include field with V4 submission.**

LATITUDE [AUTO-POPULATED] (Latitude of Parcel Centroid) {DOUBLE-PRECISION FLOATING-POINT NUMBER}

- The latitude, in decimal degrees, of the parcel's centroid. The centroid of a parcel shape is calculated as is the average position of all the points that participate in the shape.
 - This point is also calculated as and "inside" centroid, meaning that the point is subject to the following contextual qualities:
 - ▶ A non-convex (concave) feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A donut-shaped feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - ▶ A multi-part feature might have a centroid that is outside of the feature itself. The "inside" calculation ensures that this does not happen and that the point resides within the respective polygon's geometry.
 - In the final statewide parcel layer, LONGITUDE and LATITUDE for parcel centroids are provided in **decimal degrees**. The parcel centroids are calculated using an ArcGIS ArcPy script, created using ArcGIS's default WGS 84 parameters:
 - ▶ GCS_WGS_1984
 - ▶ WKID: 4326 Authority: EPSG
 - ▶ Angular Unit: Degree (0.0174532925199433)
 - ▶ Prime Meridian: Greenwich (0.0)
 - ▶ Datum: D_WGS_1984
 - ▶ Spheroid: WGS_1984
 - ▶ Semimajor Axis: 6378137.0
 - ▶ Semiminor Axis: 6356752.314245179
 - ▶ Inverse Flattening: 298.257223563
- ▶ **Counties do NOT include field with V4 submission.**

C. OTHER LAYERS – PLSS

The Version 4 Statewide Parcel Map Database Project will include a sub-project to create an initial version of a statewide PLSS database aggregated from current county PLSS datasets. This database will be based on using accurate county PLSS corner coordinates.

The V4 PLSS data submitted by counties will be the used to build an initial statewide PLSS database. Future submissions are projected to be collected annually for datasets that have been updated (with the potential of allowing for more frequent county submissions).

1. Other Layers – PLSS Submission

1.1 Format/File Specifications for County PLSS Corner Data

- A single geodatabase or shapefile using the naming convention for “Other Layers” from Appendix D, where “**OTHER**” is the name of the file geodatabase and “**COUNTYNAME_PLSS_YEAR**” is the name of the feature class.
 - **YEAR** (YYYY) represents the year from the date of the content—it is the content modification date, or the date that the content was last updated.
 - ▶ e.g., COUNTYNAME_OTHER.gdb**COUNTYNAME_PLSS_YEAR**

1.2 Submit ALL available PLSS corner attributes, including:

CornerID (unique index or unique corner number)

Corner Type (e.g., section corner, meander, water tower, benchmark etc.)

Coordinates (including X,Y or latitude/longitude, coordinate system, datum, units, date, coordinate accuracy*)

- **X, Y or LATITUDE/LONGITUDE**
- **COORDINATE SYSTEM**
- **DATUM**
- **UNITS**
- **DATE**
- ***COORDINATE ACCURACY**
 - Domains for coordinate accuracy:
 - ▶ **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision
 - ▶ **SUB-METER** – point precision of 1 meter or better
 - ▶ **APPROXIMATE** – point precision within 5 meters or coordinates derived from public records or other relevant information

URL(s) (URLs for all relevant tie sheets; URL path to link each record to their corresponding tie sheet/data sheet)

Other Attributes (any other available attributes)

Examples (this is not an exhaustive list):

- **COORDINATE METHOD**
- **COORDINATE STATUS**
- **MONUMENT TYPE**
- **MONUMENT DATE**
- **ORTHOMETRIC/ELLIPSOID HEIGHTS**
- **SECTION/TOWNSHIP/RANGE**
- **PHOTOS**
- **DATASET METADATA**
- **ET CETERA . . .**

1.3 PLSS Submission Questions

- For questions or assistance, please contact Brenda Hemstead at the State Cartographer’s Office at 608-263-4371 or hemstead@wisc.edu.

D. OTHER LAYERS – RML

For V4 of the Statewide Parcel Map Database Project, the data request has been coordinated between DOA/SCO and the UW-Madison Robinson Map Library (RML). Additional GIS layers are being requested, as a check to enhance accuracy of the V4 parcel layer, and so that they can be shared with RML. RML has made an effort each year to collect and archive local GIS data across Wisconsin. They have focused on collecting annual snapshots of several framework vector layers which are available for download via [GeoData@Wisconsin](mailto:GeoData@Wisconsin.gov), a geoportal developed in partnership with SCO. To reduce the number of data requests, data submitted for V4 will be shared with the Robinson Map Library, archived, and made publicly available.

1. Other Layers – Robinson Map Library Submission

1.1 Other Layers to Submit

- Separately from parcels, submit the layers below AS IS.
 - The datasets should be **complete**. “Complete” means the GIS file should include either:
 - a) a field with a description of each feature name/attribute field/domain (where applicable); or
 - b) a field or metadata populated with a link to a valid webpage or web document that contains authoritative/official metadata and data dictionary for the GIS data.
- **Only submit UPDATED/NEW other layers.**
 - Do **not** submit a given layer if there has been no change to the layer since you last submitted a copy (for the V3 data request in 2017 or directly to RML). Only updated/new other layers should be submitted.
 - If you forget what you submitted last year, you can locate all of your county’s data by typing the name of your county in the text search box in [GeoData@Wisconsin](mailto:GeoData@Wisconsin.gov).

1.2 Format / File Specifications for Other Layers

- Submission format(s) for other layers are flexible:
 - A single file geodatabase with multiple feature classes – named according to naming convention below
 - A series of individual shapefiles – named according to naming convention below
- **File names *must* include a YEAR value as the last 4 digits.**
 - **YEAR** (YYYY) represents the year from the date of the content—it is the content modification date, or the date that the content was last updated.
 - “2018” will be the year value in most cases.
 - You must include the year in filename. If you submit with no date, your data will be labeled “2018” by default.
- **The other layers must be separate from parcels**, regardless of the format in which you submit the other layers (e.g., not in the same file geodatabase).
 - Counties might feasibly submit two separate geodatabases:
 - ▶ **PARCELS.gdb** ▶ with tax roll attributes; and
 - ▶ **OTHER.gdb** ▶ with separate feature classes for each of the other layers and the PLSS layer
- Submit the other layers only IF they already exist.
 - The data can and should be submitted if it exists in the county land information system.
 - The county **NEED NOT CREATE** new data for “Other Layers” if it does not exist.
- Indicate which other layers you are submitting—and which your county does not maintain—in section 5 of the Validation and Submission Tool.

1.3 Naming Convention for Other Layers (Mandatory)

Layer/Theme	Naming Convention
<input type="checkbox"/> .INI SUBMISSION FORM	COUNTYNAME_Final.ini
<input type="checkbox"/> PARCEL FEATURE CLASS WITH TAX ROLL DATA	COUNTYNAME_PARCELS.gdb\PARCELS
<input type="checkbox"/> OTHER LAYERS:	
PLSS	COUNTYNAME_OTHER.gdb\COUNTYNAME_PLSS_YEAR
Zoning – General (county-maintained)	COUNTYNAME_OTHER.gdb\COUNTYNAME_GENERAL_YEAR
Zoning – Shoreland (county-maintained)	COUNTYNAME_OTHER.gdb\COUNTYNAME_SHORELAND_YEAR
Zoning – Airport Protection (county-maintained)	COUNTYNAME_OTHER.gdb\COUNTYNAME_AIRPORT_YEAR
Rights of Way	COUNTYNAME_OTHER.gdb\COUNTYNAME_ROW_YEAR
Roads/Streets/Centerlines	COUNTYNAME_OTHER.gdb\COUNTYNAME_ROADS_YEAR
Hydrography (line and/or polygon)	COUNTYNAME_OTHER.gdb\COUNTYNAME_HYDRO_YEAR_POLY (or “_LINE”)
Addresses	COUNTYNAME_OTHER.gdb\COUNTYNAME_ADDRESSES_YEAR
Buildings/Building Footprints	COUNTYNAME_OTHER.gdb\COUNTYNAME_BUILDINGS_YEAR
Land Use	COUNTYNAME_OTHER.gdb\COUNTYNAME_LANDUSE_YEAR
Parks/OpenSpace (e.g., county forests)	COUNTYNAME_OTHER.gdb\COUNTYNAME_PARKS_YEAR
Trails	COUNTYNAME_OTHER.gdb\COUNTYNAME_TRAILS_YEAR
Other Recreation (boat launches, etc.)	COUNTYNAME_OTHER.gdb\COUNTYNAME_RECREATION_YEAR

VALIDATION AND SUBMISSION TOOL/GUIDE

1. Download Tool

- Download the updated Validation and Submission Tool from www.sco.wisc.edu/parcels/tools

2. Enter attachment called *Explain-Certification.txt* when you run the tool in FINAL mode, the final time

3. Save and include the .ini file with zipped submission, as it is your required Submission Form

SUBMIT .INI SUBMISSION FORM + DATA

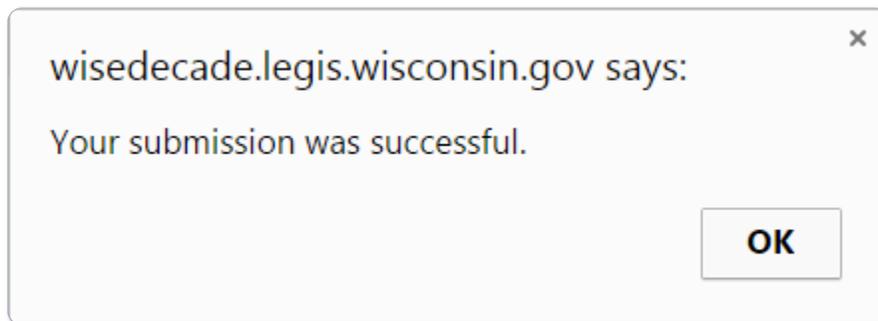
@wisedecade.legis.wisconsin.gov

1. Note the WISE-Decade browser requirements

- Compatible with **IE 10+**, **Firefox 28+**, **Chrome 33+**
- If upload via WISE-Decade fails, there is an alternative upload page

2. Look for a confirmation message after upload

- The Progress indicator will display "100%" after a successful upload, as well as a confirmation message.
- **You are done when you see the following confirmation message** (appearance will vary by browser):



Bruhn, Kevin

From: Herreid, Peter E - DOA <peter.herreid@wisconsin.gov>
Sent: Thursday, May 10, 2018 9:13 AM
To: Bruhn, Kevin; Frederick, Lee
Cc: csee@wisc.edu; djvogel2@wisc.edu; Veselenak, Davita M - DOA; ajwells@wisc.edu
Subject: RE: Important - GIS Data Request for V4 Parcel Project - Milwaukee



Hi Kevin, Lee,

Thank you for your V4 Parcel Project data submission. This message is to let you know that during the assessment of your data, we observed some issues with your parcel submission that require follow-up.

First, thanks for your work getting the data into the statewide Searchable Format. We know this can take a considerable amount of work. What follows are the specific items we either need clarification on, or a re-submission of data for.

- **ISSUE #1. PROJECTION NEEDS CORRECTION.**
 - **MILWAUKEE_PARCELS.gdb** submitted on 03/26/2018 has a projection issue.
 - The parcels show up in the middle of the Atlantic ocean.
 - This commonly happens when the data is pushed into the template without re-projecting first.
 - Steps to take to project native data to that of the Statewide Parcel CRS:
 - The workflow outlined under section 2 of the [Field_Mapping_Workflow_Documentation](#) will guide you through the steps needed to project native datasets to that of the Statewide Parcel Layer (*NAD_1983_HARN_Wisconsin_TM*).
 - **-->ACTION #1. Re-project parcel data and re-submit.**

- **ISSUE #2. INCOMPLETE ADDRESS INFO FOR CITY OF CUDAHY.**
 - There are approximately 994 records with **STREETTYPE** field populated, but both **STREETNAME** and **SITEADDRESS** are <Null>.
 - All but two of these are in the CITY OF CUDAHY.
 - All but a handful have **IMPROVED** (Improved Structure) = "YES," and the values in **IMPVALUE** (Assessed Value of Improvements) field suggest that these have significant improved structures that would have addresses.
 - **-->ACTION #2. Locate City of Cudahy address information and populate address fields such as STREETNAME and SITEADDRESS for re-submission.**
 - **If it is not possible to obtain the data to populate the fields, please respond with an explanation.**

- **ISSUE #3. INCOMPLETE TAX ROLL ATTRIBUTES FOR CITY OF WAUWATOSA.**
 - There are 16,209 records with **CNTASSDVALUE** (Total Assessed Value) = <Null> in CITY OF WAUWATOSA.
 - These records are also missing values for **LNDVALUE** (Assessed Value of Land) and **IMPVALUE** (Assessed Value of Improvements).
 - However, 15,701 records are populated with values for **ESTFMKVALUE**, and **NETPRPTA/GRSPRPTA**.
 - **-->ACTION #3. Locate City of Wauwatosa data for CNTASSDVALUE, LNDVALUE, and IMPVALUE and populate in re-submission.**

- **If it is not possible to obtain the data to populate the fields, please respond with an explanation.**
- **ISSUE #4. SOME YEAR 2015 RECORDS ANNOTATED WITH “INCOMPLETE TAXROLL INFORMATION”**
 - There are 1,025 records with a TAXROLLYEAR value of “2015” (when most data submitted for V4 has a TAXROLLYEAR of 2017).
 - 548 of these have a true PARCELID value
 - 477 of these have PARCELID = <Null>
 - All have a **PROPCCLASS** (Class of Property) value = 7, indicating “Other” for class of property
 - The OWNERNME1 value for these records is “Incomplete taxroll information”
 - **-->ACTION #4. Provide an explanation for these TAXROLLYEAR = 2015 and “Incomplete taxroll information” owner name.**
- **ISSUE #5. RECORDS WITH AN AUXCLASS VALUE ALSO HAVE A PROPCCLASS VALUE OF “7”**
 - Every record of 11,879 records with a value in **AUXCLASS** (Auxiliary Class of Property—for tax exempt parcels) also has a **PROPCCLASS** value of “7”—indicating “Other” for class of property.
 - 8,349 of these have values in CNTASSDVALUE, LNDVALUE and often the IMPVALUE field.
 - 83 have values for ESTFMKVALUE, NETPRPTA/GRSPRPTA values.
 - These 83 records are puzzling. If the parcel is tax exempt, in theory, it should not have values for ESTFMKVALUE, NETPRPTA/GRSPRPTA.
 - **-->ACTION #5. Provide an explanation for why tax exempt parcels are A) denoted as both AUXCLASS and PROPCCLASS—when they are traditionally mutually exclusive fields and B) how 83 records can possibly have ESTFMKVALUE, NETPRPTA/GRSPRPTA values.**
- **ISSUE #6. MISSING PLSS SUBMISSION**
 - No PLSS points were submitted with the V4 submission. It was noted that PLSS layer is “Not in digital format” within the .ini Submission Form file.
 - In the past, Brenda Hemstead (608-263-4371; hemstead@wisc.edu) has received a well-attributed dataset from Bill Shaw (who worked for the Department of Transportation & Public Works and is now retired).
 - This data may have been stewarded by MCAMLIS (county.milwaukee.gov/mclio/about/Land-Information-Council.html).
 - We expect that the data is available.
 - **-->ACTION #6. Submit PLSS corner data, per [page 21 of the Submission_Documentation](#), or respond with an explanation as to why PLSS data cannot be submitted.**

Thanks for all of your work on these issues.

Thank you,
Peter Herreid

PROFESSIONAL SERVICE CONTRACT
Southeastern Wisconsin Regional Planning Commission, SEWRPC
Specifications for Vertical Control Surveys

This Contract between Milwaukee County, a Wisconsin municipal body corporate (hereinafter called “County”), represented by its Department of Administrative Services - Economic Development, Land Information Office, and the Southeastern Wisconsin Regional Planning Commission, SEWRPC (hereafter called “Contractor”), and is entered into on _____, 2018.

1. SCOPE OF SERVICES.

Contractor shall specifically perform all of the tasks and achieve the objectives set forth in its proposal called MEMORANDUM OF PROCEDURE, which is attached hereto as Exhibit “A.”

Area Covered

The vertical control survey work covered by this Agreement shall include all previously monumented 1,065 U.S. Public Land Survey corners within the County and as delineated on the map attached hereto and made part hereof as Exhibit “B.”

The Commission shall establish high order vertical control survey services on all previously monumented 1,065 U.S. Public Land Survey System corners within the County. All vertical work carried out under this Agreement by the Commission shall meet the accuracy and guidelines governing such work as set forth by the Commission in SEWRPC Addendum Memorandum Report No. 206, *Revised Estimate of the Costs of Converting the Legacy Datums within the Region to New National Datums*. In order to provide efficiency and effectiveness, the Commission services under this Agreement shall be rendered in accordance with the “Memorandum of Procedure” attached hereto and made part hereof as though fully set forth herein.

The Commission will be responsible for all work and shall complete this work with its own staff resources and required survey instruments, tools, and materials including motor vehicles.

Commission to Document Vertical Control Survey Data

The Commission shall prepare control survey summary diagrams of all U.S. Public Land Survey sections within the County, which will depict the new elevations referenced to the North American Vertical Datum of 1988 (NAVD88) of the monuments for which vertical control survey data is to be obtained. In addition, the new elevations as referenced above shall be added to the Record of U.S. Public Land Survey Control Station, attached hereto and made a part hereof as Exhibit “C.”

2. STAFFING.

Contractor’s employees listed below are to be assigned to the project listed below:

	<u>Name</u>	<u>Position</u>
a.	Robert W. Merry	Chief Surveyor

Contractor shall not replace Robert Merry as Chief Surveyor without the prior approval of the County. If the successor to said Robert Merry cannot be mutually agreed upon, the County shall have the right to terminate this Contract upon thirty (30) days’ notice. Any replacement of other personnel shall be by persons of equal qualifications, which shall be attested to by Contractor. Robert Merry as Chief Surveyor shall be required to give this contractual obligation top priority.

Contractor represents that its employees and subcontractors possess the necessary skill, expertise, and capability, including sufficient personnel with the necessary qualifications, to perform the services required by this Contract. Contractor shall provide, at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be the employees of, or have any other contractual relationship with, the County.

3. DATES OF PERFORMANCE.

The work to be performed under this Agreement shall commence as of the day first above written. The control survey work specified under this Agreement shall be completed no later than one year following the day first above written.

4. COMPENSATION.

The total compensation to Contractor for services performed under the Contract shall not exceed \$27,249. This amount includes, but is not limited to, all the aforementioned services and the deliverable final products. Any additional services and/or compensation to the Commission will require prior written authorization from the County. State Prompt Pay Law, Section 66.285, does not apply to this Contract. As a matter of practice, the County attempts to pay all invoices in 30 days.

5. BILLING.

The Commission shall submit a single invoice during the first quarter of each year in the amount specified in Article 6 to Milwaukee County. The County, on behalf of the Steering Committee, shall pay to the Commission the amount shown on the invoice upon receipt of said invoice.

6. OWNERSHIP OF DATA.

Upon completion of the work or upon termination of the Contract, it is understood that all completed or partially completed data, drawings, records, computations, survey information, and all other material that Contractor has collected or prepared in carrying out this Contract shall be provided to and become the exclusive property of the County. Therefore, any reports, information and data, given to or prepared or assembled by Contractor under this Contract shall not be made available to any individual or organization by Contractor without the prior written approval of County.

No reports or documents produced in whole or in part under this Contract shall be the subject of an application for copyright by or on behalf of the Contractor.

7. AUDIT AND INSPECTION OF RECORDS.

Contractor shall permit the authorized representatives of County, after reasonable notice, to inspect and audit all data and records of Contractor related to carrying out this Contract for a period of up to three years after completion of the Contract. The prime consultant must obtain prior written Milwaukee County approval for all subconsultants and/or associates to be used in performing its contractual obligations. There must be a written contractual agreement between the prime consultant and any County-approved subconsultants and/or associates which binds the subconsultants to the same audit contract terms and conditions as the prime consultant.

8. AFFIRMATIVE ACTION.

The Contractor assures that it will undertake an affirmative action program as required by 14 CFR Part 152, Subpart E, to insure that no person shall on the grounds of race, creed, color, national origin, or sex be excluded from participating in any employment activities covered in 14 CFR Part 152, Subpart E. The Contractor assures that no person shall be excluded on these grounds from participating in or receiving the services or benefits of any program or activity covered by this subpart. The Contractor assures that it will require that its covered suborganizations provide assurances to the Contractor that they similarly will undertake affirmative action programs and that they will require assurances from their suborganizations, as required by 14 CFR Part 152, Subpart E, to the same effect.

9. DISADVANTAGED BUSINESS ENTERPRISE.

The Contractor shall comply with Milwaukee County Ordinance Chapter 42 and CFR 49 part 23, which has an overall goal of seventeen percent (17%) participation of certified disadvantaged, minority and/or women business enterprise (DBE) on professional service contracts. In accordance with this, the Contractor shall ensure that DBE's have the maximum opportunity to participate in this project. The specific goal for this project is zero percent (0%).

In accordance with Milwaukee County policies relative to the participation and use of disadvantage business enterprises in the provision of County services, a contract was entered into with the firm of Dakota Intertek Corporation of Milwaukee, Wisconsin – a minority owned firm – to provide assistance to the County Surveyor pertaining to the maintenance of the U.S. Public Land Survey System. More specifically, the contract provided for assistance in the remonumentation of broken or substandard concrete monuments marking the location of corners pertaining to the system.

The contract specified 9 such monument locations. The work has been found to be in compliance and a payment made to the contractor in the amount of \$16,122.06 on October 6, 2017. This amount constituted 19.4 percent of the total cost of the County Surveyor services, thus exceeding the goal established by Milwaukee County for the participation of a disadvantage business enterprise in this regard.

10. NON-DISCRIMINATION, EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION PROGRAMS.

In the performance of work under this Contract, Contractor shall not discriminate against any employee or applicant for employment because of race, color, national origin, age, sex, or handicap, which shall include, but not be limited to, the following:

Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeships. Contractor will post in conspicuous places, available for employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

Contractor agrees to strive to implement the principles of equal employment opportunity through an effective Affirmative Action program, and has so indicated on the Equal Employment Opportunity Certificate attached hereto and made a part of this Contract. The program shall have as its objective to increase the utilization of women, minorities and handicapped persons, and other protected groups, at all levels of employment, in all divisions of Contractor's work force, where these groups may have been previously under-utilized and under-represented. Contractor also agrees that in the event of any dispute as to compliance with the aforesaid requirements, it shall be contractor's responsibility to show that it has met all such requirements.

When a violation of the non-discrimination, equal opportunity or Affirmative Action provisions of this section has occurred, as determined by County, Contractor shall immediately be informed of the violation and directed to take all action necessary to halt the violation, as well as such action as may be necessary to correct, if possible, any injustice to any person adversely affected by the violation, and immediately take steps to prevent further violations.

If, after notice of a violation to Contractor, further violations of the section are committed during the term of the Contract, County may terminate the Contract without liability for the uncompleted portion or any materials or services purchased or paid for by the Contractor for use in completing the Contract, or it may

permit Contractor to complete the Contract, but, in either event, Contractor shall be ineligible to bid on any future contracts let by County.

11. INDEMNITY.

Contractor agrees to the fullest extent permitted by law to indemnify, defend and hold harmless County and its agents, officers and employees from and against all loss or expense, including costs and attorneys' fees, including statutory benefits under Workers Compensation Laws or liability for damages, including suits at law or in equity, for any wrongful, intentional, or negligent act or omission of Contractor or its (their) agents which may arise out of or are connected with the activities covered by this Contract.

Contractor shall indemnify and save the County harmless from any award of damages and costs against County for any action based on U.S. patent or copyright infringement regarding computers programs involved in the performance of the tasks and services covered by this Agreement.

12. INSURANCE.

The Commission, as an agency of the State, is self-funded for liability under Section 893.82 and Section 895.46(1) of the Statutes. As a result, such protection as is afforded under the respective Wisconsin Statutes is applicable to officers, employees, and agents while acting within the scope of their employment or agency. Since this is statutory indemnification, there is no liability policy as such that can extend protection to any other.

13. PERMITS, TAXES, LICENSES.

Contractor is responsible for procuring, maintaining and paying for all necessary federal, state, and local permits, licenses, fees and taxes required to carry out the provisions of this Contract.

14. TERMINATION BY CONTRACTOR.

Contractor may, at its option, terminate this Contract upon the failure of the County to pay any amount which may become due hereunder for a period of forty-five (45) days following submission of appropriate billing and supporting documentation. Upon said termination, Contractor shall be paid the compensation due for all services rendered through the date of termination, including any retainage.

15. TERMINATION BY COUNTY FOR VIOLATIONS BY CONTRACTOR.

If the Contractor fails to fulfill its obligations under this Contract in a timely and proper manner, or violates provisions of this contract, the County shall have the right to terminate the contract by giving thirty (30) days written notice of termination, specifying the alleged violations and effective date of termination. The contract shall not be terminated if, upon receipt of the notice, Contractor cures any alleged violations prior to the end of the thirty (30) day period. In the event of termination, the County will only be liable for services rendered through the date of termination, and not for the uncompleted portion or for any materials or services purchased or paid for by Contractor for use in completing the Contract.

16. UNRESTRICTED RIGHT OF TERMINATION BY COUNTY.

The County further reserves the right to terminate the Contract at any time for any reason by giving Contractor thirty (30) days written notice of such termination. In the event of said termination, the Contractor shall reduce its activities hereunder as mutually agreed to, upon receipt of said notice, and turn over all work product(s) to the County. Upon said termination, Contractor shall be paid for all services rendered through the date of termination. This section also applies should the Milwaukee County Board of Supervisors fail to appropriate additional monies required for the completion of the Contract.

17. INDEPENDENT CONTRACTOR.

Nothing contained in this Contract shall constitute or be construed to create a partnership or joint venture between County or its successors or assigns and Contractor or its successors or assigns. In entering into this

Contract, and in acting in compliance herewith, Contractor is at all times acting and performing as an independent contractor, duly authorized to perform the acts required of it hereunder.

18. SUBCONTRACTS.

Assignment of any portion of the work by subcontract must have the prior written approval of County.

19. ASSIGNMENT LIMITATION.

This Contract shall be binding upon and inure to the benefit of the parties and their successors and assigns; provided, however, that neither party shall assign its obligations hereunder without the prior written consent of the other.

20. PROHIBITED PRACTICES.

- A. During the period of this contract, contractor shall not hire, retain or utilize for compensation any member, officer, or employee of County or any person who, to the knowledge of Contractor, has a conflict of interest.
- B. Contractor hereby attests that it is familiar with Milwaukee County's Code of Ethics which states, in part, "No person may offer to give to any County officer or employee or his immediate family, and no County officer or employee or his immediate family, may solicit or receive anything of value pursuant to an understanding that such officer's or employee's vote, official actions or judgment would be influenced thereby."

21. NOTICES.

All notices with respect to this Contract shall be in writing. Except as otherwise expressly provided in this Agreement, a notice shall be deemed duly given and received upon delivery, if delivered by hand, or three days after posting via US Mail, to the party addressed as follows:

To Contractor:
SEWRPC
Attn: Robert W. Merry
W239 N1812 Rockwood Dr.
Waukesha, WI 53188

To County:
Department of Administrative Services
Economic Development-Land Information Office
Attn.: Land Information Officer
633 West Wisconsin Ave. Room 943
Milwaukee, WI. 53203

Either party may designate a new address for purposes of this contract by written notice to the other party.

22. MISCELLANEOUS.

This Contract shall be interpreted and enforced under the laws and jurisdiction of the State of Wisconsin. This Contract constitutes the entire understanding between the parties and is not subject to amendment unless agreed upon in writing by both parties hereto. Contractor acknowledges and agrees that it will perform its obligations hereunder in compliance with all applicable state, local and federal law, rules and regulations and orders.

23. AUTHORIZATION.

The authority to enter into this Agreement is granted pursuant Milwaukee County Code of Ordinances 56.30.

IN WITNESS WHEREOF, the parties hereto have executed this Contract on the day, month and year first above written.

SOUTHEASTERN WISCONSIN
REGIONAL PLANNING COMMISSION

By: _____ Date: _____
Charles L. Colman, Chairman

Department of Administrative Services,

By: _____ Date: _____
Teig Whaley-Smith, Director

Approved with regards to County Ordinance Chapter 42:

By: _____ Date: _____
Community Business Development Partners

Reviewed by:

Approved for execution:

By: _____ Date: _____
Risk Management

By: _____ Date: _____
Corporation Counsel

Approved:

Approved:

By: _____ Date: _____
Comptroller

By: _____ Date: _____
County Executive

Approved as to Wis. Stats. 59.42:

By: _____ Date: _____
Corporation Counsel

Exhibit “A”

MEMORANDUM OF PROCEDURE

Procedure to be followed in Providing Commission Staff Services to the County in the Establishment of High Order Geodetic Control on the U.S. Public Land Survey System

The following procedure shall be followed by the County and Commission in the provision of survey support services by Commission staff.

1. The vertical phase will utilize the legacy National Geodetic Vertical Datum of 1929 (NGVD29) framework along with the Wisconsin Height Modernization Program (WI-HMP) within the Region. Legacy elevations would be established on WI-HMP bench marks by differential level surveys connecting the legacy bench marks to the height modernization stations. The elevation transfer should involve one-half mile of differential leveling. Height differences will be established between the newly determined NGVD29 elevation and the published NAVD88 height for each WI-HMP bench mark. A triangulated digital surface will be prepared for the determined height differences between the two datums for each WI-HMP bench mark throughout the Region with the resulting surface used to convert the legacy elevations for all USPLSS monuments in the County to the new NAVD88 datum. The new heights determined from the surface will preserve the legacy Second Order, Class II network accuracy.
2. The Commission shall prepare a new “Record of U.S. Public Land Survey Control Station” for all USPLSS monumented corners containing the interpolated NAVD88 elevation along with the NAD83 horizontal positioning and associated legacy control information. These documents are commonly referred to as “dossier” sheets. New dossier sheets will be furnished in digital format to the County. The sketch and affidavit will not be altered during this control phase at this time. Any correction(s) identified during the leveling would be borne from the County Surveyor services contract to remedy an identified correction with regards to the corner monument, sketch, or affidavit.
3. The Commission shall then prepare the “Record” on reproducible Mylar or other stable drafting material.
4. The Commission shall also update the elevations for all USPLSS Corners on the CSSDs created from the horizontal control surveys contract and referenced to NAVD88.
5. The Commission will provide in digital format acceptable to the County of the new “Record” and CSSDs to the County and retain one for the Commission files.

* * *

Exhibit "B"

Milwaukee County – USPLSS Corners

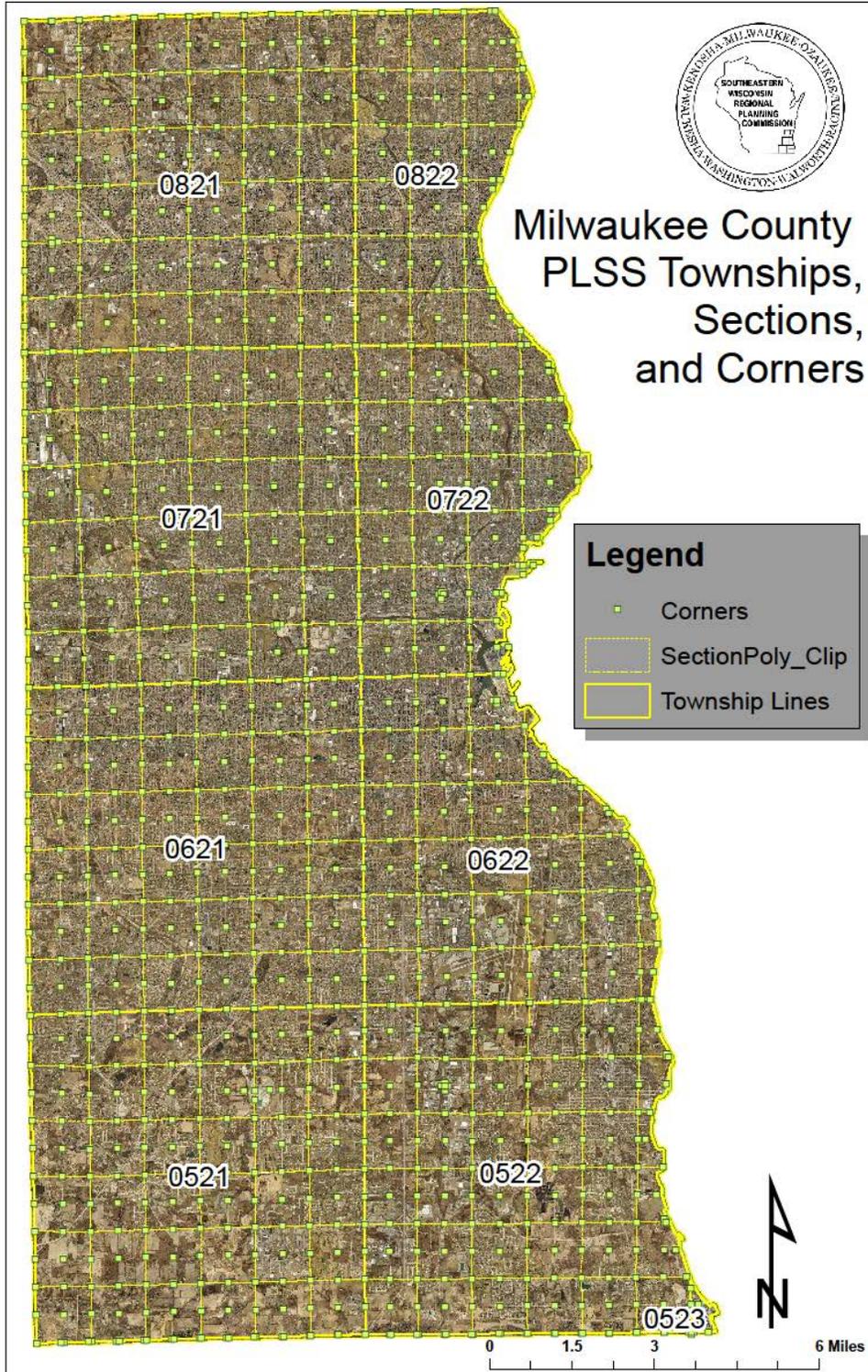
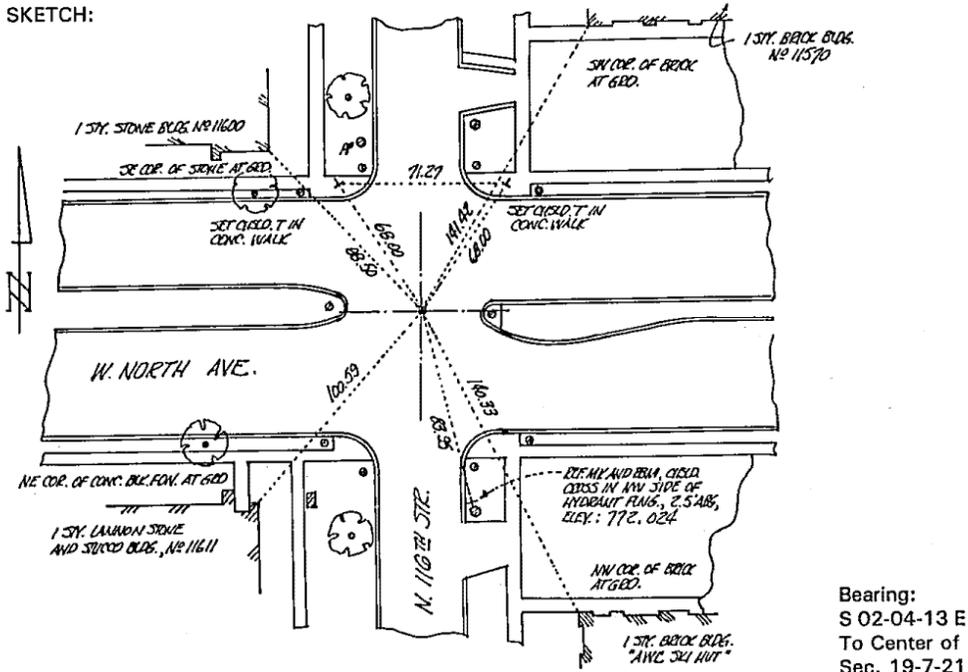


Exhibit "C"

Sample "RECORD OF U.S. PUBLIC LAND SURVEY CONTROL STATION"

RECORD OF U.S. PUBLIC LAND SURVEY CONTROL STATION	
U.S. PUBLIC LAND SURVEY CORNER <u>18</u> / <u>19</u>	T <u>07</u> N, R <u>21</u> E, <u>Milwaukee</u> COUNTY, WISCONSIN
HORIZONTAL: NORTH AMERICAN DATUM OF 1927	HORIZONTAL: NORTH AMERICAN DATUM OF 1983/2011
VERTICAL: NATIONAL GEODETIC DATUM OF 1929	VERTICAL: NORTH AMERICAN VERTICAL DATUM OF 1988 (12)
HOR. CONTROL: <u>AERO-METRIC ENGINEERING, INC. 1988</u>	HOR. CONTROL: <u>SEWRPC 2017</u>
VERT. CONTROL: _____	VERT. CONTROL: _____
NORTHING: <u>392,387.19</u> USFT	NORTHING: <u>392,396.87</u> USFT
EASTING: <u>2,519,095.87</u> USFT	EASTING: <u>2,487,558.05</u> USFT
ELEVATION: <u>770.118</u> FT	ELEVATION: _____ FT
HOR. ACCURACY: <u>3rd ORDER, CLASS I</u>	HOR. ACCURACY: <u>3rd ORDER, CLASS I (COMPUTED)</u>
VERT. ACCURACY: <u>2nd ORDER, CLASS II</u>	VERT. ACCURACY: _____
RBM ELEV. IN SKETCH BELOW TIED TO NGVD29 DATUM. CONVERSION FROM NGVD29 _____ FT DERIVES NAVD88 HEIGHT	

LOCATION SKETCH:



Bearing:
S 02-04-13 E
To Center of
Sec. 19-7-21

SURVEYOR'S AFFIDAVIT: As County Surveyor, I hereby certify that I set a concrete monument with SEWRPC brass cap to mark this corner; replacing a broken concrete monument, said concrete monument with WisDOT aluminum cap having been set to mark this corner in 1988 by the City Engineer following street reconstruction; replacing a cast iron plug with cross set in the then existing concrete pavement to mark this corner in 1958 by Walter L. Keil, State Highway Commission of Wisconsin Project Engineer, following street reconstruction; replacing a cast iron plug with cross set in the then existing concrete pavement to mark this corner in 1943 by the Milwaukee County Highway Department following street reconstruction; replacing an iron rod set to mark this corner in 1919 by the Milwaukee County Highway Department following street reconstruction; replacing in turn an old cut limestone monument then marking this corner; that I referenced the same as shown hereon; and that this record is correct and complete to the best of my knowledge and belief.



DATE OF SURVEY: 11 JULY 1992

K. W. Bauer
REGISTERED LAND SURVEYOR

S - 157

FORM PREPARED BY SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC)
CERTIFICATION APPLIES ONLY TO THE LOCATION SKETCH AND SURVEYOR AFFIDAVIT

07210900 90 -



DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES MANAGEMENT
MILWAUKEE COUNTY LAND INFORMATION OFFICE

633 West Wisconsin Avenue, Suite 903, Milwaukee, WI 53203 (414) 278-3927

MEMORANDUM

TO: Land Information Council
FROM: Kevin Bruhn, Land Information Officer
DATE: May 30, 2018
SUBJECT: 2020 Ortho and LiDAR Capture

BACKGROUND

The Southeast Wisconsin Regional Planning Commission organizes the regional orthophoto and LiDAR capture every 5 years. The Land Information Officers from the 7 Counties of the SEWRPC region started to plan to capture imagery for the extents of the SEWRPC area. Federal Transportation and Planning grants have been identified at \$200,000 to assist with the acquisition of this regional flight. The estimated grant portion for Milwaukee County is \$18,032. The cost schedule has been generated from Ayres, the vendor for the Wisconsin Regional Orthophoto Consortium, WROC. The cost schedule has not been generated from Eagle View formally known as Pictometry, the vendor for the oblique products that Milwaukee County utilizes.

ACTIVITIES THIS PERIOD – 12/17 – 6/18

1. Meeting 5/17/18, of 7 County LIO's to coordinate level of imagery resolution needed
2. General cost menu for imagery and elevation products
3. Coordinate regional need
4. Identify grant opportunities

NEXT

- Acquire cost menu for imagery from Eagle View\Pictometry.
- Generate feedback from municipalities within County to ensure imagery needs are met.

WROC 2020 - 6"					WROC 2020 - 3"		
County	Area (sq mi)	\$80/sq mi	Commission	County	\$250/sq mi	Commission	County
Kenosha	272	\$21,760	\$17,408	\$4,352	\$68,000	\$20,352	\$47,648
Milwaukee	241	\$19,280	\$15,424	\$3,856	\$60,250	\$18,032	\$42,218
Ozaukee	233	\$18,640	\$14,912	\$3,728	\$58,250	\$17,434	\$40,816
Racine	333	\$26,640	\$21,312	\$5,328	\$83,250	\$24,916	\$58,334
Walworth	577	\$46,160	\$36,928	\$9,232	\$144,250	\$43,172	\$101,078
Washington	436	\$34,880	\$27,904	\$6,976	\$109,000	\$32,622	\$76,378
Waukesha	581	\$46,480	\$37,184	\$9,296	\$145,250	\$43,472	\$101,778
Totals	2673	\$213,840	\$171,072	\$42,768	\$668,250	\$200,000	\$468,250

Impervious/Nonimpervious					WROC 2020 - 3" (Revised)		
County	Urban	Suburban	Rural	Total	\$195/sq mi	Commission	County
Kenosha	\$85,680	\$87,040	\$106,080	\$278,800		\$20,351	
Milwaukee	\$404,880	\$77,120		\$482,000		\$18,032	
Ozaukee	\$73,395	\$93,200	\$83,880	\$250,475	\$45,435	\$17,434	\$28,001
Racine	\$104,895	\$133,200	\$119,880	\$357,975	\$64,935	\$24,916	\$40,019
Walworth	\$60,585	\$147,712	\$273,498	\$481,795	\$112,515	\$43,172	\$69,343
Washington	\$183,120	\$111,616	\$167,424	\$462,160	\$85,020	\$32,623	\$52,397
Waukesha	\$183,015	\$325,360	\$174,300	\$682,675	\$113,295	\$43,472	\$69,823
Totals	\$1,095,570	\$975,248	\$925,062	\$2,995,880	\$421,200	\$200,000	\$259,583

LiDAR - 30 PPM / 5cm Vert Accuracy		
County	Area (sq. mi.)	\$360/sq. mi.
Kenosha	272	\$97,920
Milwaukee	241	\$86,760
Ozaukee	233	\$83,880
Racine	333	\$119,880
Walworth	577	\$207,720
Washington	436	\$156,960
Waukesha	581	\$209,160
Totals	2673	\$962,280

*2 geiger made
- Photon -*

Impervious/Nonimpervious		
Category	Range	Used
Urban	450-600	525
Suburban	320-480	400
Rural	120-180	150

Note: The above costs are based on 1/4 section and are only budgetary and will change based on areas to be mapped. Commission used Rural/Urban percentages from Comprehensive Plan and took some percentages from each to make Suburban Category as provided.

much lower.