Monroe County
Land Information Plan
2025-2027

Monroe County Land Information Office
777 S. Black River Street, Suite #2
Sparta, WI 54656
(608) 269-8698
https://www.co.monroe.wi.us/departments/land-information-office/
Version: 2024-11-01
Approved/Adopted by Land Information Council on: 2024-11-12

CONTENTS

EXECUTIVE SUMMARY

About this Document. This document is a land information plan for Monroe County prepared by the land information officer (LIO) and the Monroe 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 2023, Monroe County was awarded $101,144.00 in WLIP grants and retained a total of $46,952.00 in local register of deeds document recording fees for land information.

This plan lays out how funds from grants and retained fees will be prioritized. However, as county budgets are determined on an annual basis with county board approval, this plan provides estimated figures that are subject to change and are designed to serve planning purposes only.

Land Information in Monroe 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 Monroe 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. To provide high quality service by maintaining land records in an efficient manner, streamlining the use of GIS data across departments and collaboration with other county offices and state agencies.

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

Monroe County Land Information Projects: 2025-2027	
Project #1	**Remapping/Parcel Integration**
(Benchmark 4)	**Project Plan for PLSS**
Project #3	**Scanning/Conversion of Sanitation & Zoning Documents**
Project #4	**Public Land Survey System Monument Maintenance**
Project #5	**WSRS 2022 Conversion**

The remainder of this document provides more details on Monroe 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.

The Statewide Parcel Map Initiative

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

- 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 Monroe County is meeting these benchmarks appears in the Foundational Elements section of this plan document.

County Land Information System History and Context

The Wisconsin Land Information Program was created in 1989, through Act 31. Pursuant to this, the Monroe County Board of Supervisors established a Land Information Office on June 9, 1990. Lorraine Mattheisen, Real Property Lister, was designated as Monroe County's Contact person.

The Monroe County Administrative Committee, originally chaired by David Sullivan and later by Loren Pierce, with additional members including Nalani Bever, Richard Campfield and Harv Simmons formed a county staff committee to review planning options. This staff committee was chaired and directed by

County Board Surpervisor Harvey Jernander. At Harvey's Direction, and with the assistance of Bentley Lein, UWEX resource agent, the staff committee reviewed and analyzed planning options. Early in the process a commitment was made to drafting Monroe County's Modernization Plan in-house. The staff committee was composed as follows:

- Harvey Jernander (Chair) — County Board Supervisor
- Norm Culpitt — Administrator of Sanitation, Forestry and Zoning
- Vicky Jo Dutton — Register of Deeds
- Annette Erickson — Treasurer
- Al Hoff — County Conservationist
- Bentley Lein — UW Extension Resource Agent
- Lorraine Mattheisen — Real Property Lister
- Mark Mulder — ASCS
- Al Roof — Solid Waste Manager
- Gary Sime — County Surveyor
- Norbert Smith — Highway Commissioner
- Gordon Stelter — Emergency Management Coordinator

Monroe County's first Land Records Modernization Plan was adopted on August 5th, 1992.

I am unable to locate any documentation regarding changes to the plan between the adoption of the original and the following Land Records Modernization Plan for 1999-2000.

Monroe County adopted an updated Land Records Modernization Plan for 1999-2000 on June 2, 1999. Doug Avoles the Land Information Officer prepared the updated plan, with the assistance of the following staff:

- Al Hoff — County Conservationist
- Mike MacLaren — Emergency Management/911 Coordinator
- Lorraine Mattheisen — Real Property Lister
- Vicky Dutton — Register of Deeds
- Annette Erickson — Treasurer
- Jack Dittmar — County Highway Commissioner
- Bently Lein — UW Extension Agricultural Agent
- Gary Sime — County Surveyor
- Wes Bangsberg — Zoning, Sanitation & Forestry Administrator
- Dale Trowbridge — County Sheriff

Monroe County adopted an updated Land Records Modernization Plan for 2005-2010 on April 6, 2005. Mathew Eddy, the Land Information Officer, updated the plan with the assistance of the following staff:

- Al Hoff — County Conservationist
- John Mehtala — Information Systems Director
- Cindy Struve — Emergency Management
- John Burke — Register of Deeds
- Annette Erickson — Treasurer
- Jack Dittmar — County Highway Commissioner
- Amy Schanhofer — UW Extension Agricultural Agent
- Gary Sime — County Surveyor
- Wes Bangsberg — Zoning, Sanitation & Forestry Administrator
- Chuck Amundson — County Sheriff
- Mark Loether — E911 Coordinator

The plan focused on the anticipated transition into a maintenance and application stage. This essentially

came to fruition as our parcel mapping project completed within this window and moved into maintenance and our website was further developed in order to serve that information as well as auxiliary data to county constituents as well as the rest of the world. We also obtained countywide ortho-imagery in this plan year cycle. The unanticipated loss of our Land Information Office hindered additional development and maintenance of our Land Information Systems during this period.

Monroe County adopted an updated Land Records Modernization Plan for 2010-2015. Jeremiah Erickson, the Real Property Coordinator, updated the plan with the assistance of the following staff:

- Al Hoff — County Conservationist
- John Mehtala — Director of Information Systems
- Cynthia Struve — Emergency Management Administrator
- John Burke — Register of Deeds
- Alison Elliott — Sanitation, Zoning & Dog Control Administrator

The Plan focused on the continued maintenance and development of our applications for public use. In this plan cycle, we accomplished a few long-term goals by improving access to information with the addition of online access to surveyor records and recorded register of deeds documents and an online tract index. We have both a GIS centric land records site as well as a treasurer and register of deeds web portal that work in companionship for excellent public access. We also achieved our goal of obtaining 6-inch county wide orthoimagery and completed a section corner maintenance project that yielded tie sheets for the remaining section corners outside of federal lands that had not been maintained or at least had no a tie sheet of record filed in the public domain. At the very end of this current cycle, we were able to hire additional staff that will allow the county to re-establish maintenance routines that ceased or went dormant during the previous two cycles following the elimination of the stand-alone land records office that will be required during the forthcoming plan cycle, 2016 through 2018.

Monroe County adopted an updated Land Records Modernization Plan for 2016-2018. Jeremiah Erickson, the Real Property Coordinator, updated the plan with land information council member assistance and approval. The members of the council at the time were as follows:

- Jeremiah Erickson, Chair — Land Information Officer
- Al Hoff, Vice-Chair — Retired, former County Conservationist
- Tim Dahlen — Real Property Coordinator
- Deb Brandt — Register of Deeds
- Annette Erickson — Treasurer
- Gene Treu — County Board Member
- Cindy Zinke — Realtor
- Randy Williams — Dispatch
- Gary Dechant — County Surveyor
- John Mehtala — Director Information Systems

The plan focused the transition to a searchable format for parcel and zoning data submission as defined by the Department of Administration under Benchmark 1 & 2.

Monroe County's Land Information Council directed the Land Information Office, Jeremiah Erickson, to amend the Land Records Modernization Plan for 2016-2018 on March 20th, 2018. Jeremiah Erickson, the GIS Specialist, updated the plan with land information council member assistance and approval. The members of the council at the time were as follows:

- Jeremiah Erickson, Chair — Land Information Officer
- Al Hoff, Vice-Chair — Retired, former County Conservationist
- Brannick Beatse — Real Property Coordinator
- Deb Brandt — Register of Deeds

- Annette Erickson — Treasurer
- Sharon Folcey — County Board Member
- Stacey Zellmer — Realtor
- Randy Williams — Dispatch
- Gary Dechant — County Surveyor
- John Mehtala — Director Information Systems

The plan added four projects in addition to the original document, Completion and Integration of PLSS, Acquire New Software/Hardware and Back-Scan Additional Documents, Acquire new 6" or better resolution Aerial Photography or Pictometry, and acquire a newer Survey Grade GPS.

Monroe County adopted a new County Land Information Plan for 2019-2021. Jeremiah Erickson, the GIS Specialist and designated Land Information Officer, updated the plan with land information council member approval. The members of the council at the time were as follows:

- Jeremiah Erickson, Chair — Land Information Officer
- Brannick Beatse, Vice-Chair — Real Property Coordinator
- Deb Brandt — Register of Deeds
- Annette Erickson — Treasurer
- Sharon Folcey — County Board Member
- Stacey Zellmer — Realtor
- Randy Williams — Dispatch
- Gary Dechant — County Surveyor
- John Mehtala — Director Information Systems
- Al Hoff, Vice-Chair — Citizen

The plan included new projects for LiDAR acquisition, an update of ESRI software and GIS Servers, QA/QC of Address Point and Centerline Data and adoption of a new Schema for address points and centerlines. The plan also included updates for recurring projects such as aerial imagery acquisition.

Monroe County adopted an updated County Land information Plan for 2019-2021 on 12/08/2020. Jeremiah Erickson, GIS Specialist, the designated Land Information Officer prepared the update under the direction of the Land Information Council. Members of the council included:

- Jeremiah Erickson, Chair — Land Information Officer
- Brannick Beatse, Vice-Chair — Real Property Coordinator
- Deb Brandt — Register of Deeds
- Debbie Carney — Treasurer
- Sharon Folcey — County Board Member
- Stacey Zellmer — Realtor
- Randy Williams — Dispatch
- Gary Dechant — County Surveyor
- Rick Folkedahl — Director Information Systems
- Jared Tessman — Emergency Manager
- Roxy Anderson — Land Conservation Planner

The updates to the plan included the following additional projects. Scanning of Treasurer Office Rolls, Acquisition of cloud space or determine other means to share surveyor files and imagery or LiDAR data, Acquisition of additional LiDAR derivative datasets, Land Information Office EOC compliance, Migration to the parcel fabric, acquire an additional survey grade GPS, scanning/conversion of sanitation & zoning office documents.

Monroe County adopted an updated County Land Information Plan (CLIP) for 2022-2024 on December 12, 2021. Jeremiah Erickson, GIS Specialist, the designated Land Information officer prepared the new

CLIP under advisement from the land information council members:

- Jeremiah Erickson, Chair — Land Information Officer
- Brannick Beatse, Vice-Chair — Real Property Coordinator
- Deb Brandt — Register of Deeds
- Debbie Carney — Treasurer
- James Kuhn — County Board Member
- Stacey Zellmer — Realtor
- Michael Thompson — Communications Center 911 Administrator
- Gary Dechant — County Surveyor
- Rick Folkedahl — Director Information Technology
- Jared Tessman — Emergency Manager
- Roxy Anderson — Land Use Planner
- Sarah Kniprath — Monroe County Resident

The focus of the CLIP during the subsequent three years was obtaining orthoimagery, backscanning of register of deeds documents and other documents. Other potential plans involved moving to a parcel fabric, updating our GIS website and perhaps upgrading a GPS unit, supporting NG911 efforts, as well as getting our lidar data online. Interestingly most of these things did not occur as we expected. We did get our lidar data online and we did proceed with an aerial imagery flight this year. We were unable to work on scanning any documents due to lack of funds, but the register of deeds office proceeded anyway. We didn't upgrade our GPS yet, we didn't upgrade our GIS website, but migrated to a new provider out of necessity, we did work on NG911 data but that was largely supported via other non-WLIP grant funding. We didn't specifically accomplish many of our projects due to lack of available supporting funds, but most of these projects ended up happening anyway.

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 2025-2027 plan, which must be completed by the end of 2024, is the fourth post-Act 20 required update.

County Land Information Plan Timeline

- DOA release of finalized instructions by March 31, 2024.
- **April-September 2024:** Counties work on land info plans.
- **Complete draft plans due to DOA by September 30, 2024**.
- **Final plans with county land info council approval due by December 31st, 2024.**

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 Monroe County Land Information Council, and others as listed below.

Monroe County Land Information Council and Plan Workgroup				
Name	**Title**	**Affiliation**	**Email**	**Phone**
+ **Jeremiah Erickson**	Land Information Officer/GIS Coordinator	Monroe County Land Information Office	jeremiah.erickson@co.monroe.wi.us	608-269-8698
+ **Mindy Hemmersbach**	County Treasurer	Monroe County Treasurer's Office	mindy.hemmersbach@co.monroe.wi.us	608-269-8710
+ **Brannick Beatse**	Real Property Lister	Monroe County Treasurer's Office	brannick.beatse@co.monroe.wi.us	608-269-8623
+ **James Kuhn**	County Board Member	Monroe County Board of Supervisors	District14@co.monroe.wi.us	608-654-5440
+ **Deb Brandt**	Register of Deeds	Monroe County Register of Deeds Office	Deb.brandt@co.monroe.wi.us	608-269-8716
+ **Trent Ziegler**	Realtor	Coulee Real Estate and Property Management	tzieglerrealestate@gmail.com	608-487-2894
+ **Patrick Deethardt**	Telecommunication Supervisor	Monroe County Communications Center 911	Patrick.Deethardt@co.monroe.wi.us	608-269-8982
+ **Gary Dechant**	County Surveyor	Monroe County Surveyor	gary.dechant@co.monroe.wi.us	608-269-8710
+ **Rick Folkedahl**	Director of Information Technology	Monroe County Information Technology	richard.folkedahl@co.monroe.wi.us	608-269-8696
+ **Roxie Anderson**	Land Use Planner	Monroe County Land Conservation Department	roxie.anderson@co.monroe.wi.us	608-269-5020

+ Land Information Council Members designated by the plus symbol

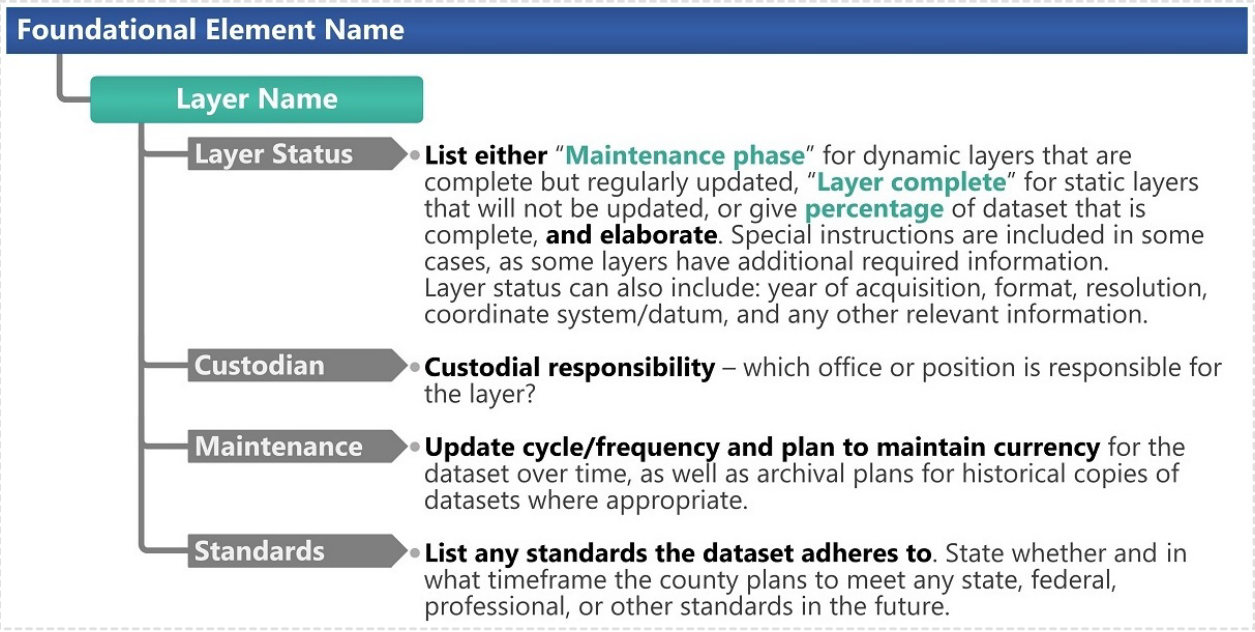
2 FOUNDATIONAL ELEMENTS

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.

FOUNDATIONAL ELEMENTS

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

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.



PLSS

Public Land Survey System Monuments

Layer Status

PLSS Layer Status

	Status/Comments
Number of PLSS corners (section, ¼, meander) **set in original government survey** that can be remonumented in your county	• 2876 set in original government survey that can be remonumented
Number of PLSS corners capable of being remonumented in your county that **have been remonumented**	• 2894 of 3093, or 93.5% of corners that are capable of being remonumented have been. This includes points monumented after the Original Government Survey (OGS).
Number of remonumented PLSS corners with survey grade coordinates (see below for definition) • **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	• 1902 corners of 3093. Including points monumented after the OGS. We now have 61.5% of the corners at survey grade accuracy. A substantial improvement from 50% from the last CLIP. (182 of the corners capable of being remonumented fall within the Fort McCoy Military Installation and we are not planning on any attempts to maintain those corners or acquire coordinates for those.)
Number of survey grade PLSS corner coordinates **integrated** into county digital parcel layer (see definition of PLSS integration on page 37)	• Uncertain of the precise amount of the 1902 that I have been able to integrate into our parcel mapping. We have aligned with a minimum of 566. Actual number is likely higher.
Number of non-survey grade PLSS corner coordinates integrated into county digital parcel layer	• Approximately 970. 956 of these are of sub-meter accuracy. The sub-meter coordinates have reliably been within 4 inches of new readings.
Tie sheets available online?	• Yes, https://www.co.monroe.wi.us/departments/surveyor/section-corner-tie-sheets/
Percentage of remonumented PLSS corners that have **tie sheets available online** (whether or not they have corresponding coordinate values)	• 100%, 2926 of 2926 corners.
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	• 93.5%, 2894 of 3093 corners.
PLSS corners believed to be remonumented based on filed tie-sheets or surveys, but do not have coordinate values	• 38 of the 221 PLSS corners for which we do not have any coordinates have tie sheets associated with them.
Approximate number of PLSS corners believed to be lost or obliterated	• Approximately 7. One may have been washed away by the Black River. A couple have likely been demolished during the excavation of cranberry beds or new road construction. A few lie within active sand mine operations. It is also likely that a few that fall within Fort McCoy have been obliterated.
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)?	• Wisconsin Corner Point Identification System
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?	• No
Total number of PLSS corners along each bordering county	• 67 bordering Vernon County • 60 bordering Juneau County • 68 bordering Jackson County • 55 bordering La Crosse County
Number of PLSS corners remonumented along each county boundary	• 67 of 67 bordering Vernon County • 60 of 60 bordering Juneau County • 68 of 68 bordering Jackson County • 55 of 55 bordering La Crosse County
Number of remonumented PLSS corners along each county boundary with survey grade coordinates	• 63 of 66 bordering Vernon County • 59 of 60 bordering Juneau County • 68 of 68 bordering Jackson County • 51 of 55 bordering La Crosse County

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- This layer is updated sporadically as new section corner coordinates and tie sheets become available. A frequency that is approximately bi-monthly. Monroe County intends to adhere to the standards below and as time allows will continue to collect coordinates that are Survey Grade with a current priority on those locations where we have no coordinates followed by those that are only approximate. We have a number of coordinates that lie within the Fort McCoy Military Installation and at this time we have no urgency to attempt to obtain them.

Standards
- Statutory Standards for PLSS Corner Remonumentation
    - § 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
    - § 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.
    - § 236.15, Wis. Stats. Surveying requirement.
- North American Terrestrial Reference Frame of 2022 (NATRF2022)
- **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
- Where no coordinates are available a hypothetical location is marked by a point and the Horizontal Accuracy is <Null>.

PLSS 1st Division

Layer Status
- Completed, 100%, in Maintenance.

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Is currently being reconstructed during a long term remapping project.

Standards
- The control of this layer is based on the location of the Public Land Survey System (PLSS) monuments which adhered to the standards identified for PLSS monuments.
- This layer was originally based on landnet. It is being modified to match section corners with survey grade coordinates as they become available, as time allows. Standard practice is to adjust our PLSS dependent layers to match our PLSS Section Corner Monuments with coordinates that are referenced to the Monroe County Coordinate System as defined in the Wisconsin Coordinate Reference Systems Handbook Second Edition.

PLSS Quarter Division

Layer Status
- Completed, 100%, in Maintenance.

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Is currently being reconstructed during a long term remapping project.

Standards
- The control of this layer is based on the location of the PLSS monuments which adhered to the standards identified for PLSS monuments.

- This layer was originally based on landnet. It is being modified to match section corners with survey grade coordinates as they become available, as time allows. Standard practice is to adjust our PLSS dependent layers to match our PLSS Section Corner Monuments with coordinates that are referenced to the Monroe County Coordinate System as defined in the Wisconsin Coordinate Reference Systems Handbook Second Edition.

PLSS Congressional Township Division

Layer Status

- Completed, 100%, in Maintenance.

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Is currently being reconstructed during a long term remapping project.

Standards

- The control of this layer is based on the location of the PLSS monuments which adhered to the standards identified for PLSS monuments.
- This layer was originally based on landnet. It is being modified to match section corners with survey grade coordinates as they become available, as time allows. Standard practice is to adjust our PLSS dependent layers to match our PLSS Section Corner Monuments with coordinates that are referenced to the Monroe County Coordinate System as defined in the Wisconsin Coordinate Reference Systems Handbook Second Edition.

Geodetic Control (HARN, WiDOT, NGS)

Layer Status

- Completed, 100% in maintenance.

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As needed

Standards

- Monroe County completed densification from the WHPGN under the guidance of the Jackson County Surveyor. For the primary (1 ppm) and secondary (2 ppm) level of horizontal densification, Monroe County has adhered to the acquisition and analysis standards as specified in the WLIB document: STANDARDS, SPECIFICATIONS, AND GUIDELINES to support Densification of the Wisconsin High Accuracy Reference Network (HARN) Using Global Position System (GPS) Technology (June 1995).
- For the tertiary (4 ppm) level, Monroe County is also adhering to these standards except for the following:
    - No pencil rubbings of monument caps were taken during data acquisition sessions.
    - No photographs were taken during data acquisition sessions.
    - No meteorological observation were taken during data acquisition
    - Horizontal Coordinates for each station are available in both the Monroe County Coordinate System and latitude/longitude values.

Lot Corners

Layer Status

- Unknown % of completion

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As needed

Standards

- **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
- North American Terrestrial Reference Frame of 2022 (NATRF2022)
- We have no plans to actively obtain GPS coordinates on recent Certified Survey Maps and Subdivision Plats, etc. but they can be very helpful when reconstructing tax parcel mapping and help verify that mapping is correct or sort out situations where surveys have competing information for a location that would not be possible based on angles and dimensions. We are able to determine if one survey is correct or the other incorrect in some instances.

Parcel Mapping

Parcel Geometries

Layer Status

- **Progress toward completion/maintenance phase:** County-wide parcel layer is 100% complete in Monroe County, 100% of the county's parcels are available in a commonly-used digital GIS format. Maintenance is ongoing and we are generally around 2-3 weeks behind what is recorded.
- **Projection and coordinate system:** NAD 1983 HARN Wisconsin CRS Monroe (US Feet)
- **Integration of tax data with parcel polygons:** Monroe County does not have a parcel polygon model that directly integrates tax/assessment data as parcel attributes. Tax data is maintained in GCS Property Assessment & Taxation System and LandNav but will be upgrading to Catalis soon.
- **Online Parcel Viewer Software/App and Vendor Name:**
    - **Beacon** – hosted, implemented, and maintained by Schneider Geospatial
- **Unique URL path for each parcel record:** Yes, from a stable URL
    - https://beacon.schneidercorp.com/Application.aspx?App=MonroeCountyWI&PageTypeID=1&searchparcelid=281006982000
    - The following information is available in a parcel feature window:
        - Owner
        - Location Address
        - Value
        - Link to tax record report
        - Link to Google Maps

Custodian

- Land Information Officer/GIS Coordinator and Real Property Lister

Maintenance

- **Update Frequency/Cycle:** Parcel polygons are updated nightly regardless of how many parcels were maintained that day. We are generally 2-3 weeks behind daily recordings.
- We also take an annual cut of the data when we complete maintenance of a calendar years transactions.

Standards

- **Data Dictionary:** There is a data dictionary but it is in excel form. Some information may be found in the metadata. We will investigate this further if time allows for it.
- We are positioned to meet the searchable format determined by DOA under s.59.72(2)(a) by marrying the parcels to tax data on an annual basis.
- We will adjust as new standards are implemented.

Parcels without Land Value

Layer Status

- **Number of parcels without a land value recorded to-date:** Two as of 09/26/2024.
- **County geolocates/maps parcels for improvements only and without a land value by:** By creating new polygons and parcel stacking.

Custodian

- Land Information Officer/GIS Coordinator and Real Property Lister

Maintenance

- **Update Frequency/Cycle:** Parcel polygons are updated nightly regardless of how many parcels were maintained that day. We are generally 2-3 weeks behind daily recordings.
- We also take an annual cut of the data when we complete maintenance of a calendar years transactions.

Standards

- Act 12 0f 2023 amended Sec. 70.17(1), Wis. Stats and removed the option of assessing improvements on leased land as personal property.
- According to the Department of Revenue, state law provides two processes to list and value buildings, improvements, and fixtures that are on leased land, exempt land, forest cropland and managed forest land along with mobile homes not subject to a parking permit fee or otherwise

exempt.
- Under sec. 70.02, Wis. Stats. – update the existing parcel's listing and value to include all buildings, improvements, and fixtures.
- Under Sec. 70.17(3) or 70.27, Wis. Stats. – create a separate parcel for the buildings, improvements, and fixtures. Sec. 70.17(3) provides for a real property assessment with only an improvement value.

Assessment/Tax Roll Data

Layer Status

- **Progress toward completion/maintenance phase:** NA (This is not applicable, since assessment/tax roll data is not a GIS data layer and is updated throughout the year.)
- **Tax Roll Software/App and Vendor name:** GIS Property Assessment & Taxation System from Catalis/LandNav/GCS Software
- **Municipal Notes:** Monroe County provides tax listing for all communities in the county. Assessment data is maintained by the local assessors.

Custodian

- Monroe County Real Property Lister and Land Information Officer/GIS Coordinator

Maintenance

- **Maintenance of the Searchable Format standard:** To maintain the Searchable Format standard, the county exports a cut of tax parcel data that reflects parcels as they were at the close of a calendar year. A data extraction of tax roll data is joined to this file via tax parcel identification number. After data is joined and before data is run through the tools provided by the Department of Administration to assist us in submitting the data there is some manual manipulation of the tax parcel polygons, correcting tax parcel id number typos and other nagging issues that may crop up. An example being single parcels made up of multiple polygons. Then the tools provided by the State of Wisconsin are used for automated and further manual validation and clean-up prior to submittal to the Wisconsin Department of Administration.
- **Searchable Format Workflow:** Monroe County maintains parcel/tax roll data in such a way that requires significant formatting every year—whether by the county staff in-house, or a third-party contractor/vendor.

Standards

- Wisconsin Department of Revenue Property Assessment Manual and attendant DOR standards
- DOR XML format standard requested by DOR for assessment/tax roll data
- § 59.72(2)(a), Wis. Stats. Presence of all nine "Act 20" attributes
- § 59.72(2)(a), Wis. Stats. Crosswalk of attributes
- § 73.03(2a), Wis. Stats. Department of Revenue (DOR) – Powers and duties defined.

Non-Assessment/Tax Information Tied to Parcels

Non-Metallic Mining

Layer Status

- 100% Complete

Custodian

- Land Conservation Department

Maintenance

- As Needed

Standards

- § 59.70(5)

Non-Assessment/Tax Information Tied to Parcels

Simultaneous Conveyance

Layer Status

- Estimated at 90% complete

Custodian

- Land Information Officer/GIS Coordinator and Real Property Lister

Maintenance

- New Certified Survey Maps, Subdivision Plats, Condominiums and Assessor Plats are mapped in the year they are recorded or within a month of the end of that calendar year.
- Certified Survey Records/Survey Plats/Plats of Survey are also maintained with this layer despite not being actual simultaneous conveyances and they are mapped more sporadically.

Standards

- Match parcel mapping standards and tie into PLSS. Surveys should meet A-E 7 and or Chapter 236 Standards.

ROD Real Estate Document Indexing and Imaging

Layer Status

- **Grantor/Grantee Index:** Grantor/Grantee Index: Monroe County's Grantor/Reception indexes exist in hard copy form between 1851 through April 3, 1996. Monroe County Grantee indexes exist in hard copy form between 1879 through April 3, 1996. Those indexes can be found in a digital database between January 1, 1968 and the latest day of business and are maintained in Avid Software powered by Fidlar Technologies and viewable in Tapestry or Laredo by Fidlar Technologies or Laredo Anywhere by Fidlar.
- **Tract Index:** Our tract index is PLSS-based. Our tract index is available in hardcopy form in bound volumes between 1851 and December 31, 1998 and via a digital image format by On Q Solutions COLORTRACT, which is available on the Monroe County Register of Deeds website. Our tract index is also available in a digital database maintained in our Document Indexing software Avid by Fidlar Technologies and viewable in Tapestry or Laredo, by Fidlar Technologies, between January 1, 1978 and the latest day of business. Back-maintenance is occurring when the Register of Deeds Office is at full staff and time allows for it. The County 17 tract index encompasses all documents recorded except DD214s and other nonpublic confidential documents.
- **Imaging:** Our images are available online through Tapestry or Laredo by Fidlar Technologies, dating back as far as 1935.
- **ROD Software/App and Vendor Name: Laredo/Tapestry** – from contractor/vendor Fidlar

Custodian

- County Register of Deeds

Maintenance

- Occurs Monday through Friday excluding county recognized holidays

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:** 2019
- **Accuracy:** Vertical 10 cm RMSEz, or 19.6 cm (0.64 ft) at the 95% confidence level
- **Post spacing:** 0.7m
- **Contractor's standard, etc.:** USGS QL2
- **Next planned acquisition year:** 2028
- **QL0/QL1/QL2 acquisition plans:** QL2

Custodian

- Monroe County Land Information Office

Maintenance

- NA

Standards

- USGS Lidar Base Specification, version 1.3

2010 LiDAR

Layer Status

- **Most recent acquisition year:** 2010
- **Accuracy:** Vertical 0.226ft RMSE (bare-earth)
- **Post spacing:** 1.2m
- **Contractor's standard, etc.:** USGS National Geospatial Program Base LiDAR Specification, Version 13.
- **Next planned acquisition year:** 2019
- **QL0/QL1/QL2 acquisition plans:** QL2

Custodian

- Monroe County Land Information Office

Maintenance

- NA

Standards

- Vertical accuracy was to achieve a RMSE Z of 15cm (95% confidence level of less than 30cm) or better in the "Open Terrain" land cover category based on USGS NGP Base LiDAR Specification, Version 1.3, collected at a nominal pulse spacing (NPS) of 1.2 meters.

LiDAR Derivatives

2019 Bare-Earth Elevation 1 foot contours

Layer Status

- 100% Complete

Custodian

- Monroe County Land Information Office

Maintenance

- NA

Standards

- The lidar data was acquired at a nominal point spacing (NPS) of 0.7 meters and an aggregate nominal point density (ANPD) of 2.0. Project specifications are based on Monroe County requirements and on the U.S. Geological Survey National Geospatial Program LiDAR Base Specification, Version 1.3. The data was developed based on a horizontal projection/datum of NAD83(2011) / Monroe County (ftUS) (EPSG Code: 7621), and vertical datum of NAVD88 - Geoid12B (Feet). Acquisition occurred with leaves absent from deciduous trees, when no snow was present on the ground, and with rivers at or below normal levels. Ayres Associates created 1 foot contours in conjunction with the QL2 LiDAR acquisition from 2019 using the hyrdro enforced breaklines in the bare earth points.

LiDAR Derivatives

2019 Bare-Earth Digital Elevation Model (DEM)

Layer Status

- 100% Complete

Custodian

- Monroe County Land Information Office

Maintenance

- Static Data

Standards

- The lidar data was acquired at a nominal point spacing (NPS) of 0.7 meters and an aggregate nominal point density (ANPD) of 2.0. Project specifications are based on Monroe County requirements and on the U.S. Geological Survey National Geospatial Program LiDAR Base

Specification, Version 1.3. The data was developed based on a horizontal projection/datum of NAD83(2011) / Monroe County (ftUS) (EPSG Code: 7621), and vertical datum of NAVD88 - Geoid12B (Feet). Acquisition occurred with leaves absent from deciduous trees, when no snow was present on the ground, and with rivers at or below normal levels. Ayres Associates created 1 foot contours in conjunction with the QL2 LiDAR acquisition from 2019 using the hydro-enforced breaklines in the bare earth points.

LiDAR Derivatives

2019 Digital Surface Model (DSM)

Layer Status

- 100% Complete

Custodian

- Monroe County Land Information Office

Maintenance

- Static Data

Standards

- First return LiDAR points from 2019 LiDAR
- See detail under LiDAR

LiDAR Derivatives

2010 Bare-Earth Elevation 2ft Contours

Layer Status

- 100% Complete

Custodian

- Monroe County Land Information Office

Maintenance

- Static Data

Standards

- The 2-foot contours were created by Ayres Associates in conjunction with the LiDAR acquisition using the hyrdro-enforced breaklines and the contour key points that were critical in defining the surface. The contours were provided in ESRI Shapefile and AutoCAD DWG formats. The elevation values were embedded in the attribute table of each feature and are part of the 3D feature geometry.

LiDAR Derivatives

2010 Bear-Earth Digital Elevation Model (DEM)

Layer Status

- 100% Complete

Custodian

- Monroe County Land Information Office

Maintenance

- Static Data

Standards

- The 5ft DEMs were created by Ayres Associates in conjunction with LiDAR acquisition in the following manner. First, ArcGrids in ASCII format were created using TerraModeler version 11.005 (TerraSolid Ltd.). The ASCII grids were then imported into ARC, translated to raster format, and placed in an Arc raster format.

Orthoimagery

Orthoimagery

Layer Status

- **Most recent acquisition year:** 2024
- **Resolution:** 6”
- **Contractor’s standard:** Leaf-off
- **Next planned acquisition year:** 2028

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- Have not received final delivery yet and will get final standards at that time.

Historic Orthoimagery

2020 6-inch Orthoimagery

Layer Status

- **Most recent acquisition year:** 2020
- **Resolution:** 6 inch
- **Contractor’s standard:** Aerial Imagery was collected to support 0.5 foot ground sample distance (GSD) orthoimagery to meet ASPRS Class II horizontal accuracy specifications at 1" = 100' map scale. The horizontal accuracy meets or exceeds 1.4 feet RMSE using the National Standard for Spatial Data Accuracy (NSSDA) standards. Resultant orthoimagery was rectified to the new DEM from an existing LiDAR surface created as part of the CDBG funded WROC program. Orthoimagery was delivered in PLSS section GeoTiff and MrSID tiles and a project wide MrSID mosaic. The orthoimagery was delivered according to a section tile schematic. Images were color corrected to match adjacent flight lines. The resulting imagery was globally tilted in terms of contrast and color to form a radiometrically consistent orthophoto mosaic.

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- American Society for Photogrammetry and Remote Sensing (ASPRS) Class II horizontal accuracy specifications at 1" = 100' map scale. The horizontal accuracy meets or exceeds 1.4 feet root mean square error (RMSE) using the National Standard for Spatial Data Accuracy (NSSDA) standards.
- Color Imagery

Historic Orthoimagery

2020 3-inch Orthoimagery

Layer Status

- **Most recent acquisition year:** 2020
- **Resolution:** 3 inch
- **Contractor’s standard:** Aerial Imagery was collected to support 0.25 foot ground sample distance (GSD) orthoimagery to meet ASPRS Class II horizontal accuracy specifications at 1" = 50' map scale. The horizontal accuracy meets or exceeds 0.7 feet RMSE using the National Standard for Spatial Data Accuracy (NSSDA) standards. Resultant orthoimagery was rectified to the new DEM from an existing LiDAR surface created as part of the CDBG funded WROC program. Orthoimagery was delivered in PLSS section GeoTiff and MrSID tiles and a project wide MrSID mosaic. The orthoimagery was delivered according to a section tile schematic. Images were color corrected to match adjacent flight lines. The resulting imagery was globally tilted in terms of contrast and color to form a radiometrically consistent orthophoto mosaic.

- Monroe County Land Information Office

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- ASPRS Level 2 horizontal accuracy standards of 0.7 feet RMSE
- 4 band RGB-NIR imagery
- City of Sparta & Vicinity
- City of Tomah & Vicinity
- Fort McCoy & Vicinity

Historic Orthoimagery

2015 Orthoimagery

Layer Status

- **Resolution:** 6 inch
- **Contractor's standard:** Aerial Imagery was collected to support 0.5 foot ground sample distance (GSD) orthoimagery to meet ASPRS Class II horizontal accuracy specifications at 1" = 100' map scale. The horizontal accuracy meets or exceeds 2.0 feet RMSE using the National Standard for Spatial Data Accuracy (NSSDA) standards. Resultant orthoimagery was rectified to the new DEM from an existing LiDAR surface created as part of the CDBG funded WROC program. Orthoimagery was delivered in PLSS section GeoTiff and MrSID tiles and a project wide MrSID mosaic. The orthoimagery was delivered according to a section tile schematic. Images were color corrected to match adjacent flight lines. The resulting imagery was globally tilted in terms of contrast and color to form a radiometrically consistent orthophoto mosaic.

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- ASPRS Class II horizontal accuracy specifications at 1" = 100' map scale. The horizontal accuracy meets or exceeds 2.0 feet RMSE using the National Standard for Spatial Data Accuracy (NSSDA) standards.
- Color Imagery

Historic Orthoimagery

2010 Orthoimagery

Layer Status

- **Resolution:** 18 inch
    - **Contractor's standard:** Compiled to meet National Map Accuracy Standards at a 1:2640 negative scale to create 1" = 400' scale with an 18" ground resolution to produce GeoTIFF and Mr. SID tiles.

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- 18 inches, 1" = 400' map scale.
- Black & White Imagery

Historic Orthoimagery

2005 Orthoimagery

Layer Status

- **Resolution:** 18 inch
  - **Contractor's standard:** Compiled to meet National Map Accuracy Standards at a 1:2640 negative scale to create 1" = 400' scale with an 18" ground resolution to produce GeoTIFF and Mr. SID tiles.

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- 18 inches, 1" = 400' map scale.
- Black & White Imagery

Historic Orthoimagery

1999 Orthoimagery

Layer Status

- **Resolution:** 1 Meter
  - **Contractor's standard:** Unknown

Custodian

- Monroe County Land Information Office

Maintenance

- Static dataset

Standards

- 1 Meter
- Black & White Imagery

Other Types of Imagery

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

Layer Status

- Monroe County does not have oblique imagery.

Address Points and Street Centerlines

Address Point Data

Layer Status

- 100% Complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Active and constant as rural address numbers are issued and we continue to acquire address and sub-address information for locations within city and villages.

Standards

- Wisconsin GIS NG9-1-1 Data Standard (Site/Structure Address Point)

Building Footprints

2019 Building Footprints

Layer Status

- 100% Complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Static dataset

Standards

- Building footprints were derived from 2019 collected by Ayres Associates in April 2019. The lidar data produced for this project was used to generate 2D building outlines for County applications. The classified building roof points (Class 6) are processed through modeling software which employs edge-detection macros to determine the outside extents of buildings. A degree of manual and automated editing was performed to clean up areas where dense vegetation partially obscures buildings. Limitations – The building classification was performed on structures that are 10-ft or taller to eliminate the inclusion of dumpsters, semi-trailers, small sheds, and other non-permanent infrastructure that was captured in the point cloud. Structures under 10-ft in height are not represented in the building outline dataset. In areas where dense vegetation completely overhangs small buildings, the classification procedure may have correctly classified points as vegetation. Buildings do not exist in the building dataset where the overhanging vegetation is classified as vegetation in the point cloud.

Other Types of Address Information

Address Ranges

Layer Status

- 100% complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- It may conflict with some of the address points that exist

Standards

- Our range is grid based 1000 addresses per mile

Street Centerlines

Layer Status

- 100% complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Active, additional updates of attributes for completeness are continual as are spatial updates to match the latest available imagery.

Standards

- Wisconsin GIS NG9-1-1 Data Standard (Road Centerline)

Rights of Way

Layer Status

- Monroe County does not have a right of way layer

Trails

Snowmobile Trails Intersections

Layer Status

- 100% complete, maintenance phase

Custodian

- Monroe County Forester

Maintenance

- As Needed

Standards

- Coded based on norms and standards developed by other counties. Based on reports from Snowmobile Clubs and a GPS attached to a trail groomer.

Trails

Snowmobile Trails

Layer Status

- 100% complete, maintenance phase

Custodian

- Monroe County Forester

Maintenance

- As Needed

Standards

- Coded based on norms and standards developed by other counties. Based on reports from Snowmobile Clubs and a GPS attached to a trail groomer.

Trails

ATV/UTV

Layer Status

- 100% complete, maintenance phase

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Updated when we are made aware of changes.

Standards

- Based on existing road centerline files and other data supplied by local government. In some cases an entire municipality is blanketed as open for travel because the local officials don't know or keep track of which routes are open or closed and open routes are identified by signage. Will attempt to adhere to standards and norms followed by other counties or the state should they present some regarding this type of data.

Land Use

Current Land Use

Layer Status

- 100% Complete

Custodian

- Monroe County Zoning Department

Maintenance

- As Needed

Standards

- s. 66.1001, Wis. Stats. Comprehensive planning.

Future Land Use

Layer Status

- 100% Complete

Custodian

- Monroe County Zoning Department

Maintenance

- As Needed

Standards

- s. 66.1001, Wis. Stats. Comprehensive planning.
- According to § 66.1001, Wis. Stats., beginning on January 1, 2010, if a town, village, city, or county enacts or amends an official mapping, subdivision, or zoning ordinance, the enactment or amendment ordinance must be consistent with that community's comprehensive plan.
- Future land use mapping for a county may be a patchwork of maps from comprehensive plans adopted by municipalities and the county.

Zoning

County General Zoning

Layer Status

- The County does maintain a GIS representation of county general zoning boundaries.

Custodian

- Monroe County Zoning Department

Maintenance

- Annual

Standards

- Matches zoning changes and changes to tax parcels dictated by recordings in the register of deeds office.

Shoreland Zoning

Layer Status

- The County does maintain a GIS representation of county shoreland zoning boundaries.

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Updated annually as navigability determinations are made at particular sites

Standards

- s. 59.69 Wis. Stats. Planning and Zoning Authority
- s. 59.692 Wis. Stats. Zoning of shorelands on navigable waters
- s. 87.30 Wis. Stats. Floodplain Zoning
- s. 281.31 Wis. Stats. Navigable waters protection laws
- Layer was developed based on potentially navigable waterways and waterbodies identified on the DNR 24K Hydro layer.

Farmland Preservation Zoning

Layer Status

- The County does maintain a GIS representation of county farmland preservation zoning boundaries.
- **Year of certification:** 2018

Custodian

- Zoning Department and Land Conservation Department

Maintenance

- Annual

Standards

- Based upon parcel layer and descriptions of land entered into the agreements as recorded in the Register of Deeds Office.

Floodplain Zoning

Layer Status

- The County does maintain a GIS representation of floodplain zoning boundaries.
- The county's floodplain zoning GIS data is not the same as/identical to the FEMA map.
- **Letters of Maps Change** – FEMA Flood Insurance Rate Maps (FIRMs) can be changed through "Letters of Maps Change," which is comprised of a few things: Letters of Map Amendment, Letters of Map Revision, and Letters of Map Revision Based on Fill. These are documents issued by FEMA that officially remove a property and/or structure from the floodplain. They are collectively called Letters of Map Change.
- **PL-566 (PL-566 Watershed Program) Breach Routes** – We do have more restrictive ordinances than FEMA's maps depict—due to PL-566 Breach Routes, under the Watershed Protection and Flood Prevention Act administered by USDA.

Custodian
- Federal Emergency Management Agency
- Monroe County Zoning Department
- Land Information Officer/GIS Coordinator

Maintenance
- As needed

Standards
- FEMA floodplain mapping standards

PL-566 Dam Shadows

Layer Status
- 100% Complete. Static

Custodian
- Zoning Department and Land Information Officer/GIS Coordinator

Maintenance
- As needed based on future LiDAR acquisition and renewed scientific analyses.

Standards
- In 2018 this data was created based on review of analyses conducted in studies of the PL566 structures applied to 2 foot contours derived from our 2010 LIDAR. Following flooding in 2017 it seemed a good idea to try and depict a more accurate picture of what may be affected during a breach rather than digitize the information based on 20' contours in old USGS topos from the time the studies were gone which at the time was the best available data. This approach resulted in an expansion in area from what was depicted by the original analyses. However this information is only used as a guide. Ironically shortly after this work was completed three of our PL566 dams breached proving that water would impact an area greater than what the study depicted or even I had depicted based on the data available to me.

Airport Protection

Layer Status
- The County does maintain a GIS representation of airport protection zoning boundaries.
- **Airport protection zoning map depicts:**
  - Height limitation restrictions
  - Actual zoning is a 3-dimensional cone that cannot be perfectly represented in 2D

Custodian
- Zoning Office and Land Information Officer/GIS Coordinator

Maintenance
- As Needed

Standards
- Monroe County Zoning Code Section 47.17

Municipal Zoning Information Maintained by the County

City of Sparta Zoning

Layer Status
- 100% Complete, maintenance phase

Custodian
- City of Sparta

Maintenance
- As Needed

Standards
- Based on tax parcel layer maintained by Monroe County

Municipal Zoning Information Maintained by the County

Chapter 236 Review

Layer Status

- 100% Complete, maintenance phase

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed

Standards

- Wis. § 236.10

Administrative Boundaries

Civil Division Boundaries

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- Based on annexation and detachments

Standards

- Adjust to account for changes in municipal boundaries dictated by Wisconsin State Statutes §66.0201-§66.0233.

School Districts

Layer Status

- **Progress toward completion/maintenance phase:** 100% complete
- **Relation to parcels:** In tax parcel attributes, also as a standalone file
    - **Attributes linked to parcels:** School District and School District Number

Custodian

- Land Information Officer/GIS Coordinator and Real Property Lister

Maintenance

- Changes as tax parcel boundaries are adjusted or if school district boundaries are altered via legal processes.

Standards

- Chapter 117 of Wisconsin Statutes

Election Boundaries

Wards

Layer Status

- 100% Complete, maintenance phase

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed, when annexations and detachments tax place

Standards

- §5.15

Election Boundaries

Supervisory Districts

Layer Status

- 100% Complete

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- As Needed

Standards
- §59.10(3)(b)

Election Boundaries
Assembly Districts
Layer Status
- 100% Complete, maintenance phase

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Adjusts after decennial census and when dictated by court system

Standards
- Wisconsin State Statutes Chapter 4, Subchapter III

Election Boundaries
Senate Districts
Layer Status
- 100% Complete, Maintenance Phase

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Adjusts after decennial census and when dictated by court system

Standards
- Wisconsin State Statute §4.009

Election Boundaries
Congressional Districts
Layer Status
- 100% Complete, Maintenance Phase

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Adjusts after decennial census

Standards
- Wisconsin State Statutes Chapter 3

Election Boundaries
Technical School Districts
Layer Status
- 100% Complete

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Static

Standards
- N/A, the country is entirely within a single Technical School District at this time.

Election Boundaries

Polling Places

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed

Standards

- §5.25

Utility Districts

Drainage Districts

Layer Status

- 100% Complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- The Lemonweir Drainage District has not been dissolved and is currently inactive so no maintenance is required at this time nor anticipated in the future.

Standards

- The Drainage District was identified based on the last records from when taxes were levied to maintain it. If it were to become active again the boundaries would be revisited. We had to create the layer to comply with state laws.

Emergency Service Boundary – Law/Fire/EMS/First Responders/ESZ/Beat/DNR Fire Protection Area

Layer Status

- **Law Enforcement:** 100% complete, in maintenance
- **Fire:** 100% complete, in maintenance
- **EMS:** 100% complete, in maintenance
- **First Responders:** 100% complete, in maintenance
- **ESZ(Emergency Service Zones):** 100% complete, in maintenance
- **Beat:** 100% complete, in maintenance
- **DNR Fire Protection Area:** 100% complete, in maintenance

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed

Standards

- Wisconsin GIS NG9-1-1 Data Standard (Emergency Service Boundary)
- Based on territorial agreements between providers and municipalities

Public Safety Answering Points (PSAP) Boundary

Layer Status

- 100% complete
- **PSAP Boundary:** We have two that fall within the county and they match and are coincident with the county boundary

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed when we acquire section corners coordinates that may alter the Fort McCoy boundary

which represents the PSAP boundary

Standards

- Wisconsin GIS NG9-1-1 Data Standard (PSAP Boundary)

Provisioning Boundary

Layer Status

- 100% complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed when we acquire section corners coordinates that may alter the county boundary

Standards

- Wisconsin GIS NG9-1-1 Data Standard (Provisioning Boundary)

Other Public Safety

Clinics

Layer Status

- 100% Complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed

Standards

- Unknown

Other Public Safety

DNR Fire Protection Area

Layer Status

- 100% Complete

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed

Standards

- Unknown

Other Public Safety

Special Tribal Enforcement Program Area

Layer Status

- 100% Complete, Maintenance Phase

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As Needed

Standards

- Based on DNR data.

Other Public Safety

Critical Facilities

Layer Status

- 100% Complete, Under renovations

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- As Needed

Standards
- Relying on local authorities

Other Public Safety

Water Points

Layer Status
- 100% Complete, Under renovations

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- As Needed

Standards
- Relying on local authorities

Lake Districts

Layer Status
- Monroe County does not have a lake district layer

Native American/Tribal Lands

Layer Status
- 100% Complete

Custodian
- Ho-Chunk Nation

Maintenance
- Real Property Lister and Land Information Officer/GIS Coordinator will adjust when new properties are held in trust for the Ho-Chunk Nation.

Standards
- Parcel based

Other Administrative Districts

Fort McCoy Boundary

Layer Status
- 100% Complete, Maintenance Phase

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- As Needed

Standards
- Fort McCoy recently surveyed the perimeter of their property and we updated to match their determination.

Other Administrative Districts

Monroe County Forest

Layer Status
- 100% Complete, Maintenance Phase

Custodian
- Monroe County Forester

Maintenance
- As Needed

Standards
- Based on tax parcel mapping.

Other Administrative Districts

Zip Code

Layer Status
- 100% Complete, Maintenance Phase

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- As Needed

Standards
- N/A, there are no actual zip code boundaries as it is fluid and for reference. Zip Codes are assigned by the USPS Postmasters based on mail delivery routes.

Other Layers

Hydrography Maintained by County or Value-Added

Layer Status
- Monroe County does not maintain hydrography at this time.
- There are plans to use new LiDAR data acquired to create an accurate file.

Towers (includes cell phone towers)

Layer Status
- Unknown

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Needs attention as some additional cell towers have went up but some non-cell towers have been taken down.

Standards
- Unknown, inherited data
- Includes cell towers, wireless internet, and radio towers

Bridges and Culverts

Layer Status
- Estimated at 80%

Custodian
- Land Information Officer/GIS Coordinator, Highway Department & Land Conservation

Maintenance
- In development we may have holes in data regarding town/city/village level.

Standards
- Using various sources to collect information, Lidar project collected all assumed culvert locations, County Highway Department is collecting information for bridges and culverts on County, State, and US Highways, Land conservation recently had interns collecting information regarding culverts as well.

Other/Miscellaneous

Traffic Signs

Layer Status
- Unknown %

Custodian
- Highway Department

Maintenance
- As time allows

Standards
- Location captured by mapping grade GPS

Other/Miscellaneous
Guard Rails
Layer Status
- Unknown %

Custodian
- Highway Department

Maintenance
- As time allows

Standards
- Location captured by mapping grade GPS

Other/Miscellaneous
Campgrounds
Layer Status
- 100%

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Needs attention

Standards
- NA

Other/Miscellaneous
Mobile Home Parks
Layer Status
- 100%

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Needs attention

Standards
- NA

Other/Miscellaneous
Cemeteries
Layer Status
- 100%

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- As needed

Standards
- NA

Other/Miscellaneous

Town Halls

Layer Status

- 100%

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As needed

Standards

- NA

Other/Miscellaneous

Unincorporated Communities

Layer Status

- 100%

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As needed

Standards

- NA

Other/Miscellaneous

CREP Agreements

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Conservation Department

Maintenance

- Per Contract

Standards

- A buffer from stream for 15 years

Other/Miscellaneous

CREP Easements

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Conservation Department

Maintenance

- Per Contract

Standards

- Perpetual and based on a survey.

Other/Miscellaneous

Fishing Easements

Layer Status

- 100% Complete, in maintenance

Custodian
- Land Conservation Department

Maintenance
- Per Signed Agreement

Standards
- A 33' buffer from streams

Other/Miscellaneous
Fishing Easements
Layer Status
- 100% Complete

Custodian
- Land Conservation Department

Maintenance
- Per occurrence of issued permit

Standards
- NA

Other/Miscellaneous
Non-Metallic Mine Permits Active Areas
Layer Status
- 100% Complete, in maintenance

Custodian
- Land Conservation Department

Maintenance
- As needed

Standards
- Based on permitted descriptions actively mined

Other/Miscellaneous
Nutrient Management Records
Layer Status
- 100% Complete, in maintenance

Custodian
- Land Conservation Department

Maintenance
- As needed

Standards
- Unknown

Other/Miscellaneous
Child Care Facilities
Layer Status
- 100% Complete, in maintenance

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- When needed to place Sexually Violent Persons being released in Monroe County

Standards
- §980

Other/Miscellaneous

Places of Worship

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- When needed to place Sexually Violent Persons being released in Monroe County

Standards

- §980

Other/Miscellaneous

Public Parks

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- When needed to place Sexually Violent Persons being released in Monroe County

Standards

- §980

Other/Miscellaneous

School Premises

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- When needed to place Sexually Violent Persons being released in Monroe County
- Updated when we are notified of new parochial and private schools

Standards

- §980

Other/Miscellaneous

Youth Center

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- When needed to place Sexually Violent Persons being released in Monroe County

Standards

- §980

Other/Miscellaneous

Railroad Centerlines

Layer Status

- 100% Complete, in maintenance

Custodian

- Land Information Officer/GIS Coordinator

Maintenance
- When needed

Standards
- N/A

Other/Miscellaneous
Railroad Crossings
Layer Status
- 100% Complete, in maintenance

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- When needed

Standards
- Based on data located at the Federal Railroad Administration Site

Other/Miscellaneous
Highway Winter Maintenance Routes
Layer Status
- 100% Complete

Custodian
- Land Information Officer/GIS Coordinator

Maintenance
- Needs updates annually

Standards
- Based on highway department data

Other/Miscellaneous
Dams
Layer Status
- 100% Complete, in maintenance

Custodian
- Land Conservation

Maintenance
- When needed

Standards
- Unknown

Other/Miscellaneous
Soils
Layer Status
- 100% complete

Custodian
- NRCS

Maintenance
- Static dataset

Standards
- Developed by the National Cooperative Soil Survey and the U.S. Department of Agriculture's Natural Resources Conservation Service

Other/Miscellaneous
Easement

Layer Status

- **How maintained:** separate/standalone layer

Custodian

- Land Information Officer/GIS Coordinator

Maintenance

- As needed when determining if parcels have legal access for zoning purposes

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.

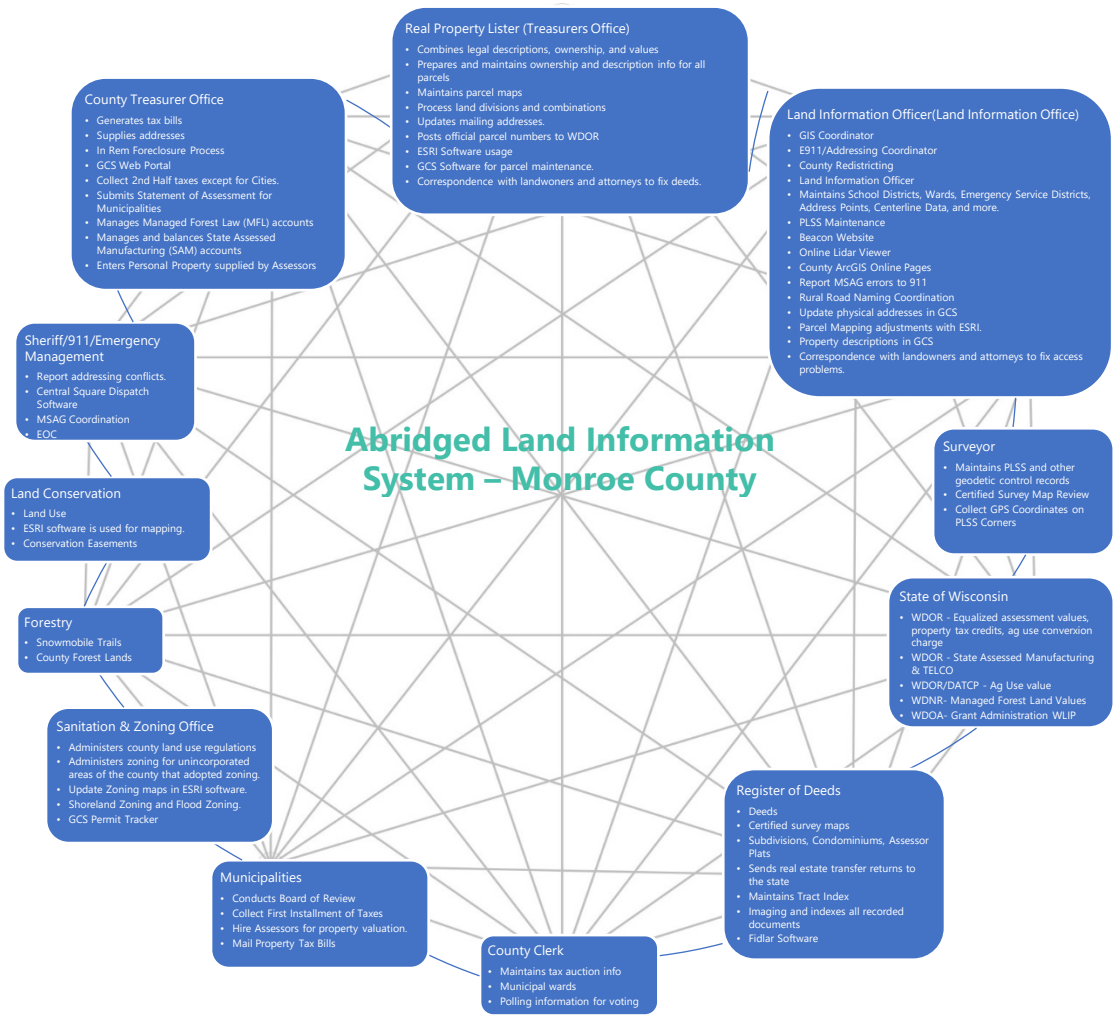
One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

> 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.

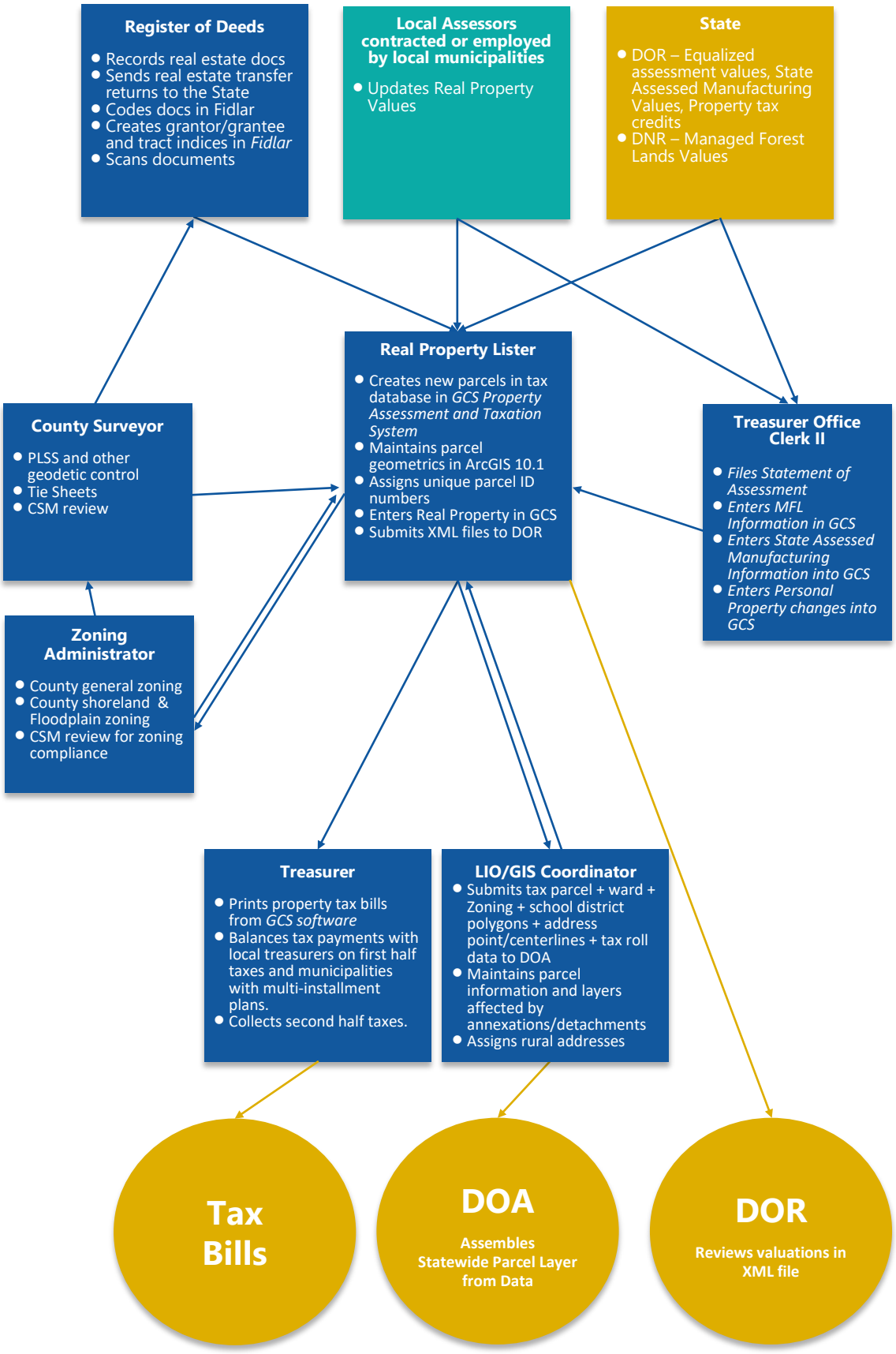
This chapter describes the design of the county land information system, with focus on how data related to land features and data describing land rights are integrated and made publicly available.

Current Land Information System

Diagram of County Land Information System - Abridged



County Parcel Data/Tax Roll/Zoning Workflow Diagram



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

- A new Monroe County workstation used for GIS:
    - Notebook: HP ProBook 650 G5 and HP USB-C Dock G5
    - Processor: Intel(R) Core(TM) i5-8265U CPU @ 1.60GHz 1.80 GHz
    - RAM: 12.00 GB
    - Operating System: 64-bit running Windows 10 Pro
    - External Monitors: (3) HP Elite Display E240q
- On-premise virtual server environment including SQL Server, ArcGIS Server, Portal Server, Data Store Server, Internal Web Server and External Web Server
- Carlson RT3, BRX6+, survey grade GPS with SurvPC software
- Carlson RT4, BRX7, survey grade GPS with SurvPC software
- Bad Elf, mapping grade GPS, model BE-3300GPS
- Canon iPF780 Plotter

Software

- ESRI Mapping Software
- **County currently uses ArcGIS Pro:** Yes, version 3.3.2
- **County plans to upgrade to ArcGIS Pro:** Yes, for two remaining staff using ArcMap

Website Development/Hosting

- Beacon from Schneider Geospatial Corporation for hosting our GIS data
- Monroe County Surveyor Page where we host surveys and tie sheets.
- Monroe County Online Map Gallery to view other maps and applications we have created.
- Monroe County GCS Webportal to share our public tax and assessment information.
- ColorTract by OnQ Solutions for our old tract index information.
- We have incorporated Fidlar Technologies Avid software in our Register of Deeds office and we are using their Laredo software for public access or Laredo Anywhere to modern tract information and access to deeds.
- Ayres Lidar Online – Monroe County for accessing our Lidar.

Metadata and Data Dictionary Practices

Metadata Creation

- **Metadata creation and maintenance process:** We use ESRI ArcCatalog when new data is developed or acquired to create and maintain our metadata

Metadata Software

- **Metadata software:** ESRI ArcCatalog
    - 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/Tags

Metadata Policy

- **Metadata Policy:** The custodian of the data should be creating metadata consistent with standards.

Municipal Data Integration Process

- The municipality or their third-party contractor zips the data and forwards it to us for inclusion in our system.

Public Access and Website Information

Public Access and Website Information (URLs)

Public Access and Website Information

GIS Webmapping Application(s) Link - URL	GIS Download Link – URL	Real Property Lister Link - URL	Register of Deeds Link - URL
https://beacon.schneidercorp.com/Application.aspx?App=MonroeCountyWI&PageType=Map	Not Available	https://www.co.monroe.wi.us/departments/treasurer/real-property-lister	https://tapestry.fidlar.com/Tapestry2/Search.aspx
			https://www.laredoanywhere.com/LaredoAnywhere/LaredoAnywhere.WebSite/#/login
			https://monroe.colortract.com/

Single Landing Page/Portal for All Land Records Data

URL
https://www.co.monroe.wi.us/departments/land-information-office

Web Services/REST End Points

URL
Not Available

County Webpage with Link to Statewide Parcel Map (www.sco.wisc.edu/parcels/data)

URL
https://www.co.monroe.wi.us/departments/land-information-office

Municipal Website Information

Municipal Website	Municipal Website URL
City of Sparta Maps	https://sparta.maps.arcgis.com/home/webmap/viewer.html?useExisting=1
City of Tomah Zoning Viewer	https://tomahwi.maps.arcgis.com/apps/webappviewer/index.html?id=c1d3b798efa44358a7eb7f2107660504

Data Sharing

Data Availability to Public

Data Sharing Policy

- Land Information Office fee schedule: https://www.co.monroe.wi.us/home/showpublisheddocument/720/637291904864730000
- Whenever possible we direct people to free sources of our data and will share data in kind. We do charge fees for hard copy map production at the equivalent of $5 for a letter size sheet of paper but do provide the ability for people to produce maps on their own via our website and will produce and email maps in a pdf format free of charge. Monroe County charges for time and materials on custom requests beyond 10 minutes at a rate of 50 cents per minute plus actual printing costs rounded to the next dollar.
- The raw tax and assessment data is available from our Treasurer's Office at $200.
- Register of Deeds documents are available for statutory copy fees that are $2 for the first page of a document plus $1 per each additional page if staff assists in retrieving the documents or if county equipment is used. There is a convenience fee of $1.50 per every $50 worth of documents purchased by debit card or credit card. This fee is charged by the vendor. Laredo subscriptions for remote searching and printing are available for users who consistently search in Monroe County, at different plans. Prints made through Laredo are 50 cents per page. Remote searching and access to recorded documents for occasional users is also made available through Tapestry. Search fees are $8.75 per search and print fees are $1.00 per page.

Open Records Compliance

- Monroe County adheres to Wisconsin's Open Records Law. Monroe County provides a wealth of information via our different websites. Our GIS, Tax & Assessment, and Survey Files are free of charge there along with a scanned copy of our hardbound tract index covering recordings between 1851 and December 31, 1998.

Data Sharing Restrictions and Government-to-Government Data Sharing

Data Sharing Restrictions

- None at this time, but 2023 Wisconsin Act 235 has created a process for judicial officers to restrict the release of private information about themselves or their immediate family. Monroe will adhere to these rules when they go into effect. Monroe County is considering adding a policy for individuals to opt out of their data being available online on our GIS website that would go into effect at the same time.

Government-to-Government Data Sharing

- Monroe County shares data with the municipalities that are located within Monroe County.
- Monroe County shares data with Fort McCoy Military Installation.
- 2023 Wisconsin Act 235 will result in needing additional sharing agreements to transfer tax and assessment information when it when it goes into effect.

Training and Education

- Currently the users of geographic data provide technical assistance to each other and other county departments and local municipalities who are developing, maintaining, and using computerized land information. Often training grant funds are used to cover expenses associated with travel and training. When time and budgets allow Monroe County will allow employees to attend seminars and training offered via institutions and groups such as Wisconsin Land Information Association (WLIA), Wisconsin Society of Land Surveyors (WSLS) and Wisconsin Real Property Listers Association (WRPLA). Online tutorials and seminars are another tool in self-education that is encouraged as workload allows. In addition, as opportunities arise Monroe County will coordinate with agencies, associations and educational institutions to provide education to its employees and the public. Monroe County to the best of our ability will assist and educate constituents who are using our data or have questions about our data so that they can make informed and educated decisions

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 Plan to Maintain Searchable Format (Benchmarks 1 & 2)

Project Title: Project Plan to Maintain Searchable Format (Benchmarks 1 & 2)

Project Description

How Searchable Format Will Be Maintained

- Every year we use a GCS export tool as well as tools available from the DOA as well as utilize find and replace tools and other tricks to achieve the desired output in-house.

Business Drivers

- Meeting the four parcel benchmarks is a requirement to retain land information program revenue and be eligible for land information grants.

Objectives/Measure of Success

- The objective is to continue to meet the Searchable Format for Benchmarks 1 & 2 (Parcel and Zoning Data Submission, Extended Parcel Attribute Set Submission).
- Get a report back from DOA that indicates that we had zero errors in our final data submissions.

Project Timeframes

Timeline – Project Plan to Maintain Searchable Format

Milestone	Duration	Date
Project start	–	January 1
Gather data	A couple days	January 1-31
We format data	A week or more	February 1-28
Project complete	–	March 1

Responsible Parties

- Land Information Officer/GIS Coordinator
- Catalis provides the GCS tax information export tool
- State Cartographer's Officer provides ESRI based tools

Estimated Budget Information

- See table at the end of this chapter for project budget information.

Project Plan for Parcel Completion (Benchmark 3)

Project Title: Project Plan for Parcel Completion (Benchmark 3)

Project Description

Current status of parcel data

- **Current status of parcel data in the county:** 100% Completed
- **Tally of the total number of parcels in digital format:** Approximately 39,500

Project Plan for PLSS (Benchmark 4)

Project Title: Project Plan for PLSS (Benchmark 4)

Project Description

Current status

- See PLSS Layer Status table in Chapter 2.

Planned approach

- To satisfactorily complete our PLSS framework and integrate that information with all of our other spatial layers. There had been a slow accumulation of PLSS data and integration of that data when time allowed. Monroe County has made a concerted effort to acquire survey grade section corner coordinates especially for all PLSS corners where we lack at a minimum sub-meter coordinates. We in Monroe County are satisfied with the sub-meter coordinates that we have because we often find that newly acquired survey grade coordinates acquired by in-house staff where within survey grade or very nearly survey grade, generally within 2 inches of the monument. However, now that we have obtained most of the sub-meter coordinates our focus will adjust to getting any non-survey grade section corner coordinates. Satisfactory completion will mean acquiring coordinate values on all areas outside of the Fort McCoy Military Installation except for those locations that are currently underwater, with a lower emphasis on ones that fall entirely within large tracts of land that are publicly held and not necessary to determination of the boundary of that publicly held land. In order to do this we have prepared by doing the following:
    - Compiled a list of needed PLSS corners created and weighted based on need.
    - Acquired a new survey grade GPS with a primary purpose to be used for survey grade coordinate acquisition.
    - The County Surveyor will re-monument where necessary or do maintenance at the selected Section Corners and collect a survey grade GPS coordinate. To our knowledge all corners outside of U.S. Army Garrison Fort McCoy have been remonumented.
    - The GIS Coordinator or Real Property Lister will integrate the updated Section Corners with survey grade coordinate values in our PLSS framework and update the parcel mapping and other layers to account for the higher spatial accuracy.

- Our **Accuracy classes** for PLSS section corners are classified by the following accuracy classes:
    - **Survey grade** – Coordinates collected under the direction of a professional land surveyor, in a coordinate system allowed by s. 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision.
    - **Sub-meter** – Accuracies of 1 meter or better
    - **Approximate** – Accuracies of within 5 meters or to coordinates derived from public records and other relevant information.
    - **Unknown** – A loss of documented information means that we cannot ascertain if it belongs in the three previous accuracy classes.
    - **<Null>** – We have no coordinates or tie sheet and the location is an educated guess.

- **Integration** of PLSS section corners into other layers is crucial. As we have acquired section corners that are survey grade we are integrating layers of data into their location. Integration means the optimization of the geospatial accuracy of the digital parcel layer which improves the accuracy of where parcel boundary lines are represented on the digital parcel map. In cases where the result would be a materially significant improvement to the geospatial accuracy of the digital parcel layer, parcels have been tied to and, if necessary, adjusted geometrically to the inputted PLSS coordinates. This definition does not imply a restriction on a county's options for integration, whether it is snapping parcel boundary lines to PLSS corner coordinates one corner at a time, entirely redrawing parcel boundaries one survey township at a time, or another chosen approach. (For example, "rubber sheeting" is not required.)

- **Future adjustments** of section corner coordinates in Monroe County is anticipated. We plan on making adjustments and new calculations for coordinate values following the completion of the NATRF 2022 endeavors and hope that a tool will become available to convert all of our coordinates into a single reference frame.

Missing Corner Notes

- A total of 182 corners that are capable of being remonumented lie within the boundary of the Fort McCoy Military Installation and there is little incentive in pursuing coordinates for these or any of the corners that have been remonumented in the past within those boundaries.
- There is a corner that lies entirely within a cranberry flowage that we do not have coordinates on and that one is going to be low priority.
- There is a corner right on the edge of the Black River that may or may not be present anymore. Crossing the swamps, sloughs, and channels to get to it may prove too difficult.
- There are likely a few other corners that should we pursue them are determined to be too difficult to obtain through ordinary means and if so they will be documented here.

County Boundary Collaboration

- We collaborated to obtain virtually all of our section corners in survey grade section coordinates. We can re-project the locations into different county coordinate systems and verify their accuracy. We have a good working relationship with our adjacent counties.

Business Drivers

- Completion and integration of PLSS will improve the geospatial accuracy of the parcel layer and other county land information system layers.
- With an ever increasing call for higher accuracy information and higher resolution imagery more available. A call for greater accuracy in our mapping is here. That is only possible with the acquisition of survey grade section corner coordinates. The benefits of this project are better data for the surveying community and higher accuracy geographic information for local residents, government agencies and decision makers, businesses and other interested parties. With our GIS data becoming more readily available to people this project will result in better data for use in research and studies by people locally and worldwide for that matter.

Objectives/Measure of Success

- Our focus sub-goal was to obtain all remaining approximate or unknown section corners by the end of 2024 and to integrate. We may not quite accomplish that but it will be close with less than 40 left as of this date and more time left in the year.
- **The objective is to meet Benchmark 4 (Completion and Integration of PLSS) by:** 01/01/2032.
- **Number of corners to be remonumented and/or rediscovered by the end of 2027:** 600
- **Number to have new coordinates established by the end of 2027:** 600
- **Accuracy class for these new coordinates by the end of 2027:** Survey Grade
- **Number of new corner coordinates to be integrated into the parcel fabric at the end of 2027:** 400
- **Number of new tie sheets to be posted online by the end of 2027:** 600

Project Timeframes

Timeline – Project Plan for PLSS

Milestone	Duration	Date
Project start	–	January 1, 2025
County Surveyor	3 years	January 1, 2025-December 31, 2027
GIS Coordinator	3 years	January 2, 2025 – December 31, 2027
Project complete	7 years	January 1, 2032

Responsible Parties

- Monroe County Surveyor
- Land Information Officer/GIS Coordinator

Estimated Budget Information

- See table at the end of this chapter (for budget information for the planning period 2025-2027).
- **<u>Estimated remaining cost for completion and integration of PLSS (to reach maintenance mode)</u>**
  - **Estimated approximate average cost of remonumentation per corner:** $175
  - **Total cost of remaining remonumentation:** $172,900
  - **Total cost of remaining integration of PLSS points into parcel layer:** ~$117,790
  - **Cost of anything else remaining:** Section corners located within the boundary of U.S. Army Garrison – Fort McCoy (182) remonumentation/integration ~$53548

  Total remaining cost: Approximately $344,238 not including inflationary costs.

Project #1: Backscanning of Register of Deeds Documents

Project Description

- Compile the list of remaining documents which will need to be scanned.
- Draft a project RFP or expand on exist contract for the work currently being completed.
- **Land Info Spending Categor**y: Administrative Activities and Management

Business Drivers

- Public access to additional records
- Archive old brittle subdivision plats and protect them from being handled and damaged.

Objectives/Measure of Success

- More documents at the fingertips of people doing searches.
- Readable historical records will assist county employees to do their jobs and save the time of retrieving the original documents and making copies.

Project Timeframes

- TBD, have no set timeframe because it will be determined by the vendor selected.

Responsible Parties

- Register of Deeds
- Land Information Officer/GIS Coordinator
- Contracted vendor

Estimated Budget Information

- See table at the end of this chapter.

Project #2: Scanning/Conversion of Sanitation & Zoning Documents

Project Description

- Have digital documents that can be tied to our parcels.
- **Land Info Spending Category:** Administrative Activities and Management

Business Drivers

- Will assist in retrieval of documents and create greater efficiencies.

Objectives/Measure of Success

- Geographically indexed documents available through county website or apps
- Achieve greater efficiencies
- Public access to additional parcel based records

Project Timeframes

Timeline – Project #2: Scanning/Conversion of Sanitation & Zoning Office Documents

Milestone	Duration	Date
Project #2 start	–	2026?
Convert Document Type and rename if necessary	TBD	Jan 1–June 30 2026
Scan any additional documents or re-scan if found illegible	TBD	July 1–Dec 1, 2026
Tie to Parcel or Point layer	TBD	Dec 1, 2026–Dec 31, 2027
Project complete	–	Dec 31, 2027

Responsible Parties

- Zoning Office
- Information Technology
- Land information Officer

Estimated Budget Information

- See table at the end of this chapter.

Project #3: WSRS2022 Conversion

Project Description

- Migrate existing coordinates and related datasets to the North American Terrestrial Reference Frame of 2022 (NATRF2022) and the North American-Pacific Geopotential Datum of 2022 (NAPGD2022)
- **Land Info Spending Categor**y: PLSS

Business Drivers

- Have all coordinates in one reference frame to eliminate some level of confusion by surveyors or the general public
- Interoperability with state and federal datasets

Objectives/Measure of Success

- Data would be completed migrated into a new datum.

Project Timeframes

Timeline – Project #3 WSRS2022 Conversion

Milestone	Duration	Date
Project #3 start	–	2026?
Recalculate corner coordinates	TBD	2026
Provide updated information on Surveyor website.	TBD	Jan 1 2027–Dec 31 2027
Project complete	–	Dec 31 2027

Responsible Parties

- Land Records Officer/GIS Coordinator

Estimated Budget Information

- See table at the end of this chapter.

Project #4: Upgrade Old GPS

Project Description

- Continue to be able to work with modern GPS equipment
- **Land Info Spending Category**: Hardware

Business Drivers

- Our older unit will be nearing ten years old by the end of the new plan cycle.

Objectives/Measure of Success

- Will keep the departments efficient
- Easy for Land Conservation, Sanitation & Zoning & County Forester and more will have modern survey grade equipment to carry out their duties

Project Timeframes

- TBD

Responsible Parties

- Land Information Officer/GIS Coordinator
- Land Conservation Office
- Sanitation & Zoning
- County Forester
- Surveyor's Office

Estimated Budget Information

- See table at the end of this chapter.

Project #5: Host our own GIS solution

Project Description

- Land Info Spending Category: Website Development/Hosting Services

Business Drivers

- Have more control of our own GIS solutions.
- Create a map print solution more to the liking of many of our existing online users.

Objectives/Measure of Success

- Offer a better user experience for patrons of our online GIS, eliminating negative feedback.

Project Timeframes

- TBD

Responsible Parties

- Land Information Officer/GIS Coordinator
- Real Property Lister.
- Vendors

Estimated Budget Information

- See table at the end of this chapter.

Project #6: Migrate Parcel Mapping to the Parcel Fabric

Project Description

- Conversion of tax parcel mapping to a parcel fabric
- **Land Info Spending Category**: Digital Parcel Mapping

Business Drivers

- Move data into a robust solution where everything is tied together
- Historical parcel mapping can be incorporated
- Industry standard workflows
- Tax Parcels and other parcel based mapping is easier to update as new splits and combinations are accounted for.

Objectives/Measure of Success

- Parcel mapping process would be standardized.

Project Timeframes

- TBD. Probably won't happen until most or all of the county is remapped.

Responsible Parties

- Land Information Officer/GIS Coordinator
- Real Property Lister

Estimated Budget Information

- See table at the end of this chapter.

Project #7: New Plotter

Project Description

- Acquire a new plotter to replace the one that was obtained in 2016.
- **Land Info Spending Category:** Hardware

Objectives/Measure of Success

- Office needs the ability to print large format maps and copies.

Project Timeframes

- TBD, will not happen until the existing plotter dies.

Responsible Parties

- Land Information Officer/GPS Coordinator
- Information Technology Director

Estimated Budget Information

- See table at the end of this chapter.

Project #8: Oblique imagery

Project Description

- Oblique imagery could be a real asset to people working in dispatch or providing assistance

during an emergency or for the sheriff department.

- **Land Info Spending Category:** Orthoimagery

Objectives/Measure of Success

- The addition of oblique imagery into our computer aided dispatch system

Project Timeframes

- TBD, be very dependent on funds

Responsible Parties

- Land Information Officer/GPS Coordinator
- Information Technology Director

Estimated Budget Information

- See table at the end of this chapter.

Completed Projects

Project Description

- Project #1: Countywide Aerial Imagery Acquisition
    - Acquired in 2024 still not technically complete as final deliveries are yet to be made, but should complete prior to new three year plan time frame.
- Project #2: Backscanning and Rescanning of Register of Deeds Documents
    - The Register of Deeds Office is working on this autonomously and it is still not complete as we did not have enough funds to assist them, it will remain in our next plan, however progress was made.
- Project #7: Update/Overhaul GIS Webpage
    - We migrated to a new system out of necessity when our GIS website provider ceased to provide services.
- Project #9: Online Lidar Data Viewer
    - We were able to carry through and fulfill this goal.

Estimated Budget Information (All Projects) for Planning Period 2025-2027

Estimated Budget Information

Project Title	Item	Unit Cost/Cost	Land Info Plan Citations Page # or section ref.	Project Total
Maintain Searchable Format (Benchmark 1 & 2)	Land Information Officer/Real Property Lister	80 hours X $40 per hour X 3 years	Section 4, Page 45	$9,600.00
PLSS (Benchmark 4)	County Surveyor	$175 per corner x 600 corners = $105,000	Section 4, Page 47	$177,000.00
	Land Information Officer/Real Property Lister	$40 per hour X 600 corners x 3 hours each = $72000		
1) Backscanning of Register of Deeds Documents	Vendor	TBD	Section 4, Page 49	$100,000.00
2) Scanning/Conversion of Sanitation & Zoning Documents	Vendor	TBD	Section 4, Page 49	$40,000.00
3) Public Land Survey System Monument Maintenance	County Surveyor	TBD	Section 4, Page 50	$200,000.00
4) WSRS2022 Conversion	Land Information Officer/Real Property Lister	TBD	Section 4, Page 51	?
5) Upgrade Old GPS	GPS	$20,000	Section 4, Page 51	$20,000.00
6) Host our own GIS Solution	Land Information Officer/Real Property Lister	TBD	Section 4, Page 52	?
7) Migrate Parcel Mapping to the Parcel Fabric	Vendor	TBD	Section 4, Page 52	?
8) New Plotter	Large Format Plotter	$6,000	Section 4, Page 52	$6,000.00
9) Oblique Imagery	Vendor	TBD	Section 4, Page 53	?
			GRAND TOTAL	**$552,600.00+?**

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