

Ashland County

Land Information Plan

2025-2027

Ashland County GIS Department
Land Information Office

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Version: 2024-12-30

Approved/Adopted by Land Information Council on: 2024-12-19

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EXECUTIVE SUMMARY

About this Document. This document is a land information plan for Ashland County prepared by the land information officer (LIO) and the Ashland 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 Ashland County Board originally approved a land information plan in October of 2005 and the county has maintained this document since. 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, Ashland County was awarded \$141,800 in the WLIP grants and retained a total of \$23,000 in local register of deeds document recording fees for land information.

This plan lays out how funds from WLIP 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 as a planning tool to guide implementation of land information activities of the county.

Land Information in Ashland County. Land information is central to county and municipal 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 Ashland 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. Over the next three years, Ashland County’s Land Information Office will provide geospatial data for the county’s planning processes, inform future land use decision making, partner with county departments to integrate land records, and improve public access to land records online.

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

Ashland County Land Information Projects: 2022-2024	
Project #1	Project Plan for PLSS (Benchmark 4)
Project #2	Update Orthoimagery with WROC
Project #3	Integrate PLSS layer into Parcel Fabric
Project #4	Creation of Public Surveyor Documents Web Map
Project #5	Plat Book Update
Project #6	Back Indexing of ROD Documents
Project #7	Physical Server Machine & Enterprise Migration
Project #8	Building out ArcGIS Online Datasets and Web Maps

The remainder of this document provides more details on Ashland 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 (For 2016-2018 Grant Years)

- Benchmark 1 & 2 – Parcel and Zoning Data Submission/Extended Parcel Attribute Set Submission
- Benchmark 3 – Completion of County Parcel Fabric
- Benchmark 4 – Completion and Integration of PLSS

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

County Land Information System History and Context

Ashland County has been involved in land records modernization since the late 1980s when digital information systems started to become a part of normal operations. At first, a database system was deployed for taxation purposes and later parcel mapping started taking place using AutoCAD software.

In 2000, digital document scanning was implemented in the register of deeds office focusing on current recorded documents with back scanning for previous years commencing shortly thereafter. It was not until about 2000 that the county embraced GIS as its main parcel management software. At that time, the parcel mapping was converted from CAD's software to ESRI's GIS software and referenced to the county coordinate system. In 2002, the county surveyor purchased a survey-grade GPS unit to obtain high accuracy coordinates of PLSS corners, and it is estimated that about 50% of the county has now been remonumented.

The county went live with its web mapping application in 2004 publishing the county's parcel mapping to the public and providing end users the ability to explore the data in an interactive online application. In 2010, the county completed mapping all of the county parcels and has since been maintaining and refining them to increase their accuracy.

In 2014, the county completed scanning most recorded land records and have back indexed them to approximately 60 years. The county, with a consultant's assistance, moved from tax parcel line features to ESRI's parcel fabric polygon features to encompass a more accurate tax parcel mapping system. In 2017, the parcel fabric transition was completed. Recently, in mid-2018, the county hired a fulltime GIS Coordinator to build and maintain the GIS Department. This position is tasked with assisting all Ashland County Departments, other organizations, and the public and private sector with GIS and land records needs. The Land Information Council and County Board passed a resolution naming the GIS Coordinator the new Land Information Officer, shifting the associated duties from the Register of Deeds.

The GIS Coordinator got the Ashland County GIS Department off the ground while assisting other departments with their GIS duties. During the COVID-19 Pandemic, the GIS Coordinator assisted the HHS Department with contract tracing by creating a web map of known public places with identifiable dates and times of positive COVID exposures. In addition, the GIS Coordinator joined the other Ashland County Departments on the Ashland County Advanced Assistance FEMA grant to help analyze areas of good location for wetland creation to help mitigate the large flooding Ashland County has seen in the 2010's. The GIS Coordinator also worked with the Ashland County Snowmobile Association, Forestry and Recreation Department to update the Snowmobile trails layer and get the first Ashland County Avenza map out to the public.

The big push over the last few years of 2022-2024 has been utilizing the Esri Enterprise to host more information on the web using the GIS server. The Ashland County web maps were created on the Enterprise system using Portal web maps and Experience Builder. Due to slow speeds and an Enterprise system corruption we decided to host the data, web maps, Experience Builder on ArcGIS Online. Additionally we have spent many hours preparing for NextGeneration911. The roads, address, law, fire, and ems jurisdictions, pasp and provisioning boundary layers received a great make over internally by the GIS Coordinator and externally by Datamark with the financial help from the DMA's NG911 GIS Grants.

Throughout the years, the county has been able to purchase several sets of countywide digital aerial imagery and has had the capability to scan wide format maps and plats for integration into its GIS. With the help of past WLIP funds, the county has made great improvements to modernizing its digital land information. This land records modernization has proven to provide many benefits to the public by making the county land records more accessible and will continue modernization by developing our online availability.

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, completed at the end of 2024.

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 (but sooner is advised).
- 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 the 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 Ashland County Land Information Officer with additional support from the Ashland County Land Information Council, listed below.

Ashland County Land Information Council and Plan Workgroup				
Name	Title	Affiliation	Email	Phone
+* Julie Gleeson	Register of Deeds	Ashland County Register of Deeds Office	Julie.Gleeson@ashlandcountywi.gov	715-682-7008
+* Tracey Hoglund	County Treasurer	Ashland County Treasurer's Office	Tracey.Hoglund@ashlandcountywi.gov	715-682-7012
+* Jennifer Solberg	Real Property Lister	Ashland County Land Description Department	Jennifer.Solberg@ashlandcountywi.gov	715-682-7003
+* Elizabeth Franek	County Board Member	Ashland County Board	Elizabeth.Franek@ashlandcountywi.gov	715-969-6732
+* Brittany Goudos-Weisbecker	GIS Coordinator, Land Information Officer	Ashland County GIS Department	Brittany.Goudos-Weisbecker@ashlandcountywi.gov	715-685-2002
+* Anthony Jennings	Licensed Real Estate Salesperson	Anthony Jennings & Crew Real Estate LLC	anthony@ajjennings.com	715-813-9554
+* Mark Hill	Director of Public Safety Communications	Ashland County Sheriff's Department	Mark.Hill@ashlandcountywi.gov	715-685-7640
+* Patrick McKuen	Professional Land Surveyor/County Surveyor	Pine Ridge Land Surveying, LLC./Ashland County Surveying Department	pmckuen@pineridgesurveying.com	715-682-7044
+ Bruce Blakeman	Zoning Administrator	Ashland County Zoning Department	Bruce.Blakeman@ashlandcountywi.gov	715-682-7014
+ Vacant	GIS Coordinator	City of Ashland		
+ Tom Ernst	Assistant Forest Administrator	Ashland County Forestry and Recreation Department	Tom.Ernst@ashlandcountywi.gov	715-769-3777

+ Land Information Council Members

* Required to be on the council by state statute

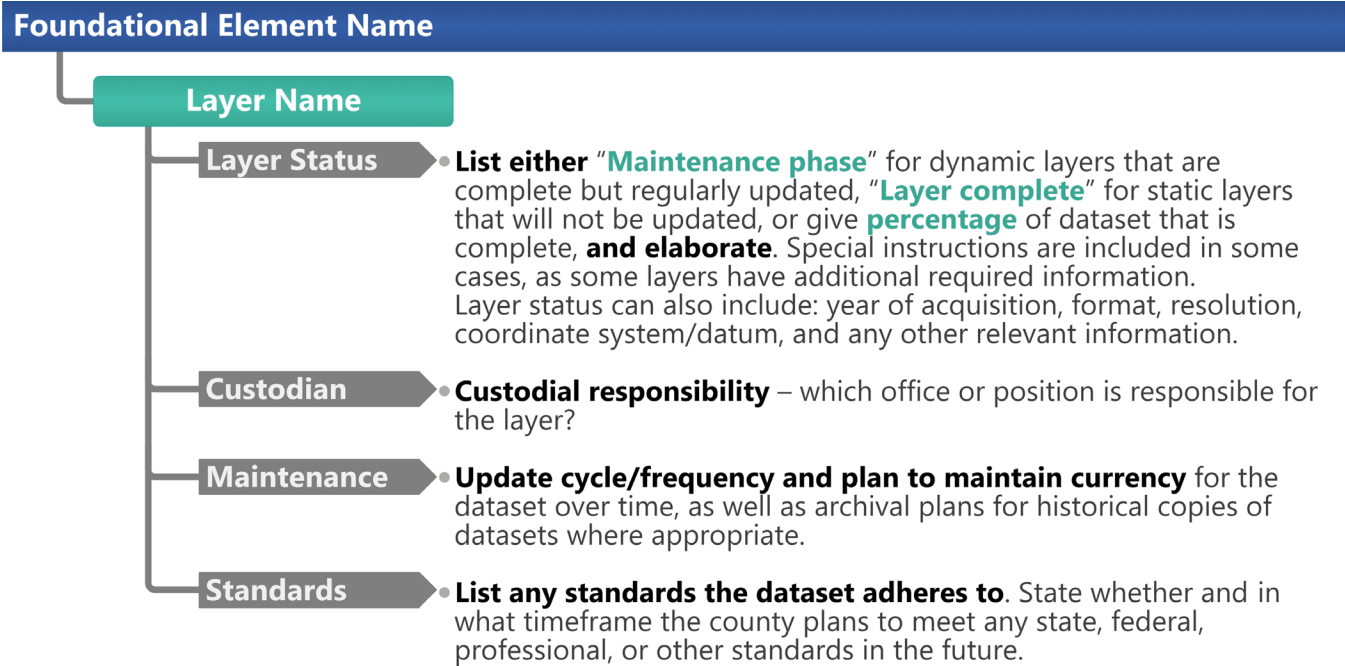
2 FOUNDATIONAL ELEMENTS

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

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

FOUNDATIONAL ELEMENTS

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



PLSS

Public Land Survey System Monuments

Layer Status

PLSS Layer Status	Status/Comments
Number of PLSS corners (selection, ¼, meander) set in original government survey that can be remonumented in your county	● 3230
Number of PLSS corners capable of being remonumented in your county that have been remonumented	● 2170
Number of remonumented PLSS corners with survey grade coordinates (see below for definition) <ul style="list-style-type: none"> ● SURVEY GRADE – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision ● SUB-METER – point precision of 1 meter or better ● APPROXIMATE – point precision within 5 meters or coordinates derived from public records or other relevant information 	● 1073
Number and percent of survey grade PLSS corners integrated into county digital parcel layer (see definition of PLSS integration on page 37)	● Amount not tracked. Corners are integrated as parcels are edited.
Number and percent of non-survey grade PLSS corners integrated into county digital parcel layer	● 0
Tie sheets available online?	● Yes- https://landshark.ashlandcountywi.gov/LandShark/#/
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values)	● 100%
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values) and a corresponding URL path/hyperlink value in the PLSS geodatabase	● 0
PLSS corners believed to be remonumented based on filed tie-sheets or surveys, but do not have coordinate values	● 1097
Approximate number of PLSS corners believed to be lost or obliterated	● Unknown
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)?	● The Romportl point numbering system known as 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	● 270
Number PLSS corners remonumented along each county boundary	● 165
Number of remonumented PLSS corners along each county boundary with survey grade coordinates	● 165

Custodian

- The custodian of the GIS layer is the Ashland County GIS Coordinator.

Maintenance

- Layer is updated quarterly by the GIS Coordinator or the Land Description Department.

Standards

- Statutory Standards for PLSS Corner Remonumentation
 - s. 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
 - s. 60.84, Wis. Stats. Monuments.
 - ch. A-E 7.08, Wis. Admin. Code, U.S. public land survey monument record.
 - ch. A-E 7.06, Wis. Admin. Code, Measurements.
 - s. 236.15, Wis. Stats. Surveying requirement.
- North American Terrestrial Reference Frame of 2022 (NATRF2022)
- Ashland County meets the survey grade standard.
 - 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

Other Geodetic Control and Control Networks

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

Layer Status

- Ashland County currently has 29 HARN monuments, six of which are accurate to 1 part per million (ppm). The HARN effort was part of a five-county project made possible by a grant administered by the former Wisconsin Land Information Board and completed May 1998.
- Ashland County does not have a GIS layer that has the HARN monuments.

Custodian

- The County Surveyor is the custodian of the HARN monuments.

Maintenance

- There are no plans for further densification.

Standards

- This effort adhered to the WLIB Specifications and Guidelines to Support Densification of the Wisconsin HARN using GPS technology that was available at that time.

Parcel Mapping

Parcel Geometries

Layer Status

- **Progress toward completion/maintenance phase:** In Ashland County, 100% of the county's parcels are available in a commonly used digital GIS format.
- **Projection and coordinate system:** North American Datum 1983 (HARN), Wisconsin County Reference System (WSCR), Ashland County, Feet.
- **Integration of tax data with parcel polygons:** The County does not have a parcel polygon model that directly integrates tax/assessment data as parcel attributes.
- **Online Parcel Viewer Software/App and Vendor name:**
 - **Esri Experience Builder** – hosted on ArcGIS Online, implemented and maintained by Ashland County GIS Department.
- **Unique URL path for each parcel record:** No, the county does not have **unique URL paths** for each parcel record, from which one can view the **specific** parcel's attribute information and other land records.

Custodian

- The Real Property Lister is the custodian.

Maintenance

- **Update Frequency/Cycle.** Parcel polygons are updated at least twice a month.
- The parcel data is maintained by the Real Property Lister. As remonumentation of PLSS corners progress and geodetic control is obtained, the maps will be refined to create a more accurate parcel fabric. Where geodetic control is nonexistent, the parcel mapping is referenced to a variety of sources, including recorded legal descriptions and survey maps. Parcels are redrawn based on ownership changes, splits, combinations, or general parcel edits based on Real Property Lister's knowledge of problem areas.

Standards

- **Data Dictionary:** After the transition into the parcel fabric, Ashland County no longer has a data dictionary for the parcel layer. There are no plans to create one.
- No statutory standards.

Parcels Without Land Value

Layer Status

- **Numbers of parcels without a land value record to-date:** 0 as of December 20, 2024.
- **County geolocates/maps parcels for improvements only and without a land value by:** creating new polygons and parcel stacking.

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 the tax roll data is updated daily.)
- **Tax Roll Software/App and Vendor name:** – from contractor/vendor Catalis/LandNav/GCS Software
- **Treasurer's Collections and Property Assessment & Taxation** – from contractor/vendor Catalis/LandNav/GCS Software
- **Municipal Notes:** NA

Custodian

- The Ashland County Treasurer is the custodian of the tax roll data. The Real Property Lister is the custodian of the assessment data.

Maintenance

- **Maintenance of the Searchable Format standard:** To maintain the Searchable Format standard, Ashland County has integrated property and ownership records with the digital parcel maps by linking data through the PIN field. The County Treasurer maintains the tax rolls. The Real Property Lister maintains the assessment rolls. The Real Property Lister maintains the parcel fabric. Work needs to be done to make our data standardized with the state submission request and to integrate the taxroll data into parcel fabric
- **Searchable Format Workflow:** The County maintains parcel/tax roll data in such a way that **requires significant formatting every year**—completed by the GIS Coordinator, in-house.

Standards

- Wisconsin Department of Revenue [Property Assessment Manual](#) and attendant DOR standards.
- DOR XML format standard requested by DOR for assessment/tax roll data.

Non-Assessment/Tax Information Tied to Parcels

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

Layer Status

- The Ashland County Zoning office uses Catalis Permit Process Management software to monitor building permits (including accessory buildings, alterations/additions, change of use, commercial buildings, gazebos), land uses, sanitary systems (including reconnects, transfers, holding tank systems, septic systems, mound systems, privies and portable restroom units).

- Currently, this data is not tied to GIS.

Custodian

- The county zoning administrator is the custodian of permit data.

Maintenance

- The zoning administrator's office maintains permit data by attaching it to real estate parcels using their Permit Tracking program. This data is currently only available in the zoning office, but may be incorporated into the county's GIS in the future.

Standards

- There are no statutory standards pertaining to the tracking of permits by tying them to parcels.

ROD Real Estate Document Indexing and Imaging

Layer Status

- **Grantor/Grantee Index:** The register of deeds office currently uses TriMin Systems' LandLink software for entering and indexing real estate documents. Documents are indexed by grantors and grantees, as well as date and time of recording, type of instrument, fees paid, who the document was returned to after recording, legal description and related documents. All indexing is verified prior to becoming available to the public.
- **Tract Index:** Real estate documents are indexed in a PLSS-based tract index. The parcel identification number is also included in the indexing and is required on all conveyance documents by county ordinance. All recorded documents that contain a legal description are indexed by quarter-quarter or government lot, section, township, and range; subdivision name, lot, and block; or certified survey map and lot number.
- **Imaging:** Documents are scanned using the Simple Software program and the images are related to the records in LandLink by document number.
- **Electronic Recording:** Real estate documents are accepted for recording electronically through trusted submitters using TriMin's Lighthouse program. Documents are reviewed and either accepted or rejected, allowing submitters to either retrieve the recorded document or correct the document in a more timely manner than if documents were returned by mail.
- **Online Access.** The real estate document index is available for searching at no fee on our LandShark website at <https://landshark.ashlandcountywi.gov/LandShark/#/>. Images may be purchased at the statutory fee using a credit card. The payment process is handled by Authorize.Net and a small convenience fee is charged to the customer to cover the costs. Customers may also purchase images through LandShark by establishing an escrow account, thereby avoiding the credit card convenience fee. Access is also available by monthly subscription, payable in advance.
- **ROD Software/App and Vendor Name:**
 - **LandShark** – from contractor/vendor TriMin Systems.
 - **LandLink**– from contractor/vendor TriMin Systems.

Custodian

- County Register of Deeds.

Maintenance

- The LandLink, LandShark, and Lighthouse programs are maintained by TriMin Systems. The indexes and images are hosted by a third-party service provider engaged by TriMin. The hosting service uses a dedicated server and provides back-ups of the daily data, which are retained for a period of ten days. TriMin is provided monthly server snapshots of all data uploaded on the server.

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 Mainland and Madeline Island at QL1
- **Vertical Accuracy:** Absolute Vertical Accuracy $\leq 10\text{cm}$
Non Vegetated Vertical Accuracy at 95 percent confidence level $\leq 19.6\text{ cm}$
Vegetated Vertical Accuracy at 95th percentile $\leq 30\text{ cm}$
- **Nominal Point Spacing:** $\leq 0.35\text{ meter}$
- **Nominal Point Density:** $\geq 8\text{ point per square meter}$
- **Contractor's standard, etc.:** The standards above were based on the USGS LiDAR Base Specification version 1.3.
- **Next planned acquisition year:** NA

Custodian

- GIS Coordinator once data is delivered.

Maintenance

- No current plan to maintain.

Standards

- USGS Lidar Base Specification.

LiDAR

Layer Status

- **Most recent acquisition year:** 2020 Apostle Islands at QL2
- **Vertical Accuracy:** Absolute Vertical Accuracy $\leq 10\text{cm}$
Non Vegetated Vertical Accuracy at 95 percent confidence level $\leq 19.6\text{ cm}$
Vegetated Vertical Accuracy at 95th percentile $\leq 30\text{ cm}$
- **Nominal Point Spacing:** $\leq 0.71\text{ meter}$
- **Nominal Point Density:** $\geq 2\text{ point per square meter}$
- **Contractor's standard, etc.:** The standards above were based on the USGS LiDAR Base Specification version 1.3.
- **Next planned acquisition year:** NA

Custodian

- GIS Coordinator once data is delivered.

Maintenance

- No current plan to maintain.

Standards

- USGS Lidar Base Specification.

LiDAR Derivatives

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

1-Foot Contours

Layer Status

- Layer completed by Ayres Association from 2020 lidar flight.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

2-Foot Contours

Layer Status

- Layer completed by Ayres Associates from 2015 lidar flight.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Hydro Breaklines

Layer Status

- Newest layer completed by Ayres Association from 2020 lidar flight.
- Layer completed by Ayres Associates from 2015 lidar flight.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Buildings and Vegetation Classification

Layer Status

- Newest layer completed by Ayres Association from 2020 lidar flight.
- Layer completed by Ayres Associates from 2015 lidar flight.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Digital Elevation Model (DEM)

Layer Status

- Newest layer completed by Ayres Association from 2020 lidar flight.
- Layer completed by Ayres Associates from 2015 lidar flight.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Digital Surface Model (DSM)

Layer Status

- Newest layer completed by Ayres Association from 2020 lidar flight.
- Layer completed by Ayres Associates from 2015 lidar flight.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Other Types of Elevation Data

Historic LiDAR

2015 LiDAR

Layer Status

- **Acquisition year:** 2015
- **Vertical Accuracy:** 12.5 cm RMSEz or a fundamental vertical accuracy (FVA) of 24.5 cm at 95% confidence level
- **Nominal Point Spacing:** 1-meter
- **Nominal Point Density:** 1 point per square meter
- **Contractor's standard, etc.:** The project was produced to meet FEMA and USGS LiDAR base spec v1.0 vertical accuracy specifications of the time, stated above.
- LiDAR data for Ashland County was received from FEMA. The county hired Ayres Associates to perform additional processing services of the data. The data was reprojected and the LiDAR point cloud was derived to North American Datum 1983 (HARN), Wisconsin County Reference System (WSCRs), Ashland County, Feet; and vertically geo-referenced to the North American Vertical Datum 1988.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Orthoimagery

Orthoimagery

Layer Status

- **Most recent acquisition year:** 2023
- **Resolution:** 6 inch
- **Contractor's standard:** ASPRS Class II
- Ashland County is currently using orthoimagery obtained through participation in WROC 2023. Ayres Associates obtained digital aerial imagery in Spring 2023, suitable for the production of 4-band (RGBN) orthoimagery at 6-inch ground pixel resolution. Control was collected for the project using Inertial Measurement Unit (IMU), Airborne Global Positioning System (ABGPS), and ground-based GPS technology.
- **Next planned acquisition year:** 2026 or 2027

Custodian

- GIS Coordinator.

Maintenance

- The county plans to update its orthoimagery every 3-5 years, dependent on the timing of the next consortium and availability of funding.

Standards

- No statutory standards.

Historic Orthoimagery

2020 Orthoimagery

Layer Status

- **Most recent acquisition year:** 2020
- **Resolution:** 6 inch
- **Contractor's standard:** ASPRS Class II
- Ashland County is currently using orthoimagery obtained through participation in WROC 2020. Ayres Associates obtained digital aerial imagery in Spring 2020, suitable for the production of 4-band (RGBN) orthoimagery at 6-inch ground pixel resolution. Control was collected for the project using Inertial Measurement Unit (IMU), Airborne Global Positioning System (ABGPS), and ground-based GPS technology.
- **Next planned acquisition year:** 2023 or 2025

Custodian

- GIS Coordinator.

Maintenance

- The county plans to update its orthoimagery every 3-5 years, dependent on the timing of the next consortium and availability of funding.

Standards

- No statutory standards.

2015 Orthoimagery

Layer Status

- **Most recent acquisition year:** 2015
- **Resolution:** 6 inch
- **Contractor's standard:** ASPRS Class II
- Ashland County is currently using orthoimagery obtained through participation in WROC 2015. Ayres Associates obtained digital aerial imagery in April 2015, suitable for the production of 4-band (RGBN) orthoimagery at 6-inch ground pixel resolution. Control was collected for the project using Inertial Measurement Unit (IMU), Airborne Global Positioning System (ABGPS), and ground-based GPS technology.
- **Next planned acquisition year:** 2020
- **WROC participation in 2020:** Confirmed participation in WROC 2020

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

2010 Digital Orthoimagery

Layer Status

- Layer completed.

- Color orthophotography at a 12-inch ground pixel resolution.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

2008 NAIP Color Orthophotos

Layer Status

- Layer completed.

Custodian

- U.S. Department of Agriculture is the custodian.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

2005 Digital Orthoimagery

Layer Status

- Layer completed.

Custodian

- GIS Coordinator.

Maintenance

- No current plan to maintain.

Standards

- No statutory standards.

Other Types of Imagery

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

Layer Status

- Ashland County does not have other types of imagery.

Address Points and Street Centerlines

Address Point Data

Layer Status

- The addressing point data has been historically collected at the driveway entrance point, this layer is now 100% complete. The county maintained all of the rural areas, however, the City of Ashland was missing all of its points. Utilizing the NextGeneration 911 GIS Grant from the DMA, the City of Ashland points are now complete in the layer.
- The driveway access point address layer is complete and in validation phase.
- It is the county's goal to integrate the 911 addressing data with the parcel layer. The GIS Coordinator works with the Real Property Lister to accomplish this goal.

Custodian

- GIS Coordinator.

Maintenance

- Address point data is maintained on a regular basis as new addresses are assigned or changed.

Standards

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

Building Footprints

Layer Status

- Newest layer completed by Ayres Associates from 2020 lidar data. This dataset is missing all tribal lands because of this a hybrid layer was created merging the 2020 and 2015 building footprints layers to show a cross county dataset.
- Layer completed by Ayres Associates in 2015.

Custodian

- GIS Coordinator.

Maintenance

- Layer updated with new lidar flights.

Standards

- No statutory standards.

Other Types of Address Information

e.g., Address Ranges

Layer Status

- Ashland County created the address ranges when the countywide address system was developed it is 100% complete, it is the road centerlines layer, see below.

Structure Point Data

Layer Status

- This layer began with the GIS Coordinator and was completed by Datamark a part of the NextGeneration 911 GIS Grants from the DMA.

Custodian

- GIS Coordinator.

Maintenance

- Address point data is maintained on a regular basis as new addresses are assigned or changed.

Standards

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

Street Centerlines

Layer Status

- Layer is 100% complete with official 911 street names from the Ashland County MSAG.
- Several municipalities in Ashland County have their own separate addressing system, including the City of Ashland, City of Mellen, Village of Butternut, the Sanitary District of Glidden-Town of Jacobs, and the Town of La Pointe. Because Ashland County Dispatch is the Public Safety Answering Point (PSAP) for these municipalities, the GIS Department has their address data but does not maintain their address systems. The County assists the Sanitary District of Glidden-Town of Jacobs, Village of Butternut, and the Town of La Pointe with their address system.

Custodian

- GIS Coordinator.

Maintenance

- Once layer is up-to-date maintenance will include adding street centerlines of newly created roads and keeping up with adjustments as necessary.

Standards

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

Rights of Way

Layer Status

- Layer is 75% complete however is now static.
- How Maintained: a standalone layer from the parcel layer

Custodian

- Land Description Office.

Maintenance

- No longer being maintained.

Standards

- No statutory standards.

Trails

Non-Motorized Trails

Layer Status

- Layer is complete.

Custodian

- GIS Coordinator.

Maintenance

- Trail datasets are maintained on an annual or as-needed basis.

Standards

- No statutory standards.

Snowmobile Trails

Layer Status

- The snowmobile Trails layer is 100% complete.

Custodian

- GIS Coordinator.

Maintenance

- Maintained on an annual as-needed basis with information supplied from the Ashland County Snowmobile Association.

Standards

- No statutory standards.

Land Use

Current Land Use

Layer Status

- Layer was completed in 2016 when the county comprehensive plan was updated in 2016. It has not been updated since.

Custodian

- GIS Coordinator.

Maintenance

- Ashland County does not maintain current land use data. Maintenance cycle follows Comprehensive Plan cycles.

Standards

- No statutory standards.

Future Land Use

Layer Status

- Layer is complete.
- Future land use layers and maps were created through the county's comprehensive planning process in 2016.

Custodian

- GIS Coordinator.

Maintenance

- Maintenance cycle follows Comprehensive Plan cycles.

Standards

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

Zoning

County General Zoning

Layer Status

- The County does maintain a GIS representation of county general zoning boundaries.
- Layer is complete.
- Ashland County has three general zoning districts; Forestry and Recreation, Unrestricted, and Municipality Jurisdiction.
- Some municipalities in Ashland County maintain their own zoning districts and GIS layers.

Custodian

- The Zoning Administrator is the custodian of the records.
- The GIS Coordinator is the custodian of the layer.

Maintenance

- Updated as needed.

Standards

- No statutory standards.

Shoreland Zoning

Layer Status

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

Custodian

- The Zoning Administrator is the custodian of the records.
- The GIS Coordinator is the custodian of the layer.

Maintenance

- No current maintenance cycle determined.

Standards

- No statutory standards.

Farmland Preservation Zoning

Layer Status

- Not administered by county.
- Ashland County does not administer a farmland preservation zoning ordinance. Ashland County Land and Water Conservation Department does administer a farmland preservation area in which lands can be entered into a Farmland Preservation Plan.
- **Year of certification:** NA

Floodplain Zoning

Layer Status

- The County does maintain a GIS representation of floodplain zoning boundaries.
- The County's floodplain zoning GIS data is 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.
- Layer was completed by FEMA. Many issues persist with this layer not accurately representing floodplain areas in Ashland County.

Custodian

- FEMA is the custodian of the data.

Maintenance

- Ashland County will be receiving layer updates from FEMA within the coming years.

Standards

- No statutory standards.

Airport Protection

Layer Status

- Not administered by county.

Municipal Zoning Information Maintained by the County

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

Layer Status

- Ashland County does not have a municipal zoning layer.

Administrative Boundaries

Civil Division Boundaries

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

Layer Status

- Layer is complete.

Custodian

- GIS Coordinator.

Maintenance

- Updated as needed.

- As the county acquires more accurate coordinates on the PLSS corners that are located on the boundary lines we will discuss updating this layer.

Standards

- No statutory standards.

School Districts

Layer Status

- **Progress toward completion/maintenance phase:** 100%
- **Relation to parcels:** NA, layers are not tied together. Note that the parcel layer has a school district attribute, but the school district layer does not have a parcel attribute.
 - **Attributes linked to parcels:** None

Custodian

- GIS Coordinator.

Maintenance

- No maintenance cycle determined.

Standards

- No statutory standards.

Election Boundaries

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

Layer Status

- Layer Completed.

Custodian

- GIS Coordinator.

Maintenance

- Updated as needed.

Standards

- No statutory standards.

Utility Districts

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

Layer Status

- Ashland County does not have any utility districts layers.

Emergency Service Boundary – Law/Fire/EMS

Layer Status

- **Law Enforcement:** 100% complete.
- **Fire:** 100% complete.
- **EMS:** 100% complete.

Custodian

- GIS Coordinator.

Maintenance

- Updated annually as needed.

Standards

- Wisconsin GIS NG9-1-1 Data Standard (Emergency Service Boundary)

Public Safety Answering Points (PSAP) Boundary

Layer Status

- Layer is complete.

- **PSAP Boundary:** is the same as full county boundary including Lake Superior.

Custodian

- GIS Coordinator.

Maintenance

- Updated annually as needed.

Standards

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

Provisioning Boundary

Layer Status

- Layer is complete.

Custodian

- GIS Coordinator.

Maintenance

- Updated annually as needed.

Standards

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

Other Public Safety

e.g., Healthcare Facilities

Layer Status

- Layer is 25% complete.

Custodian

- GIS Coordinator.

Maintenance

- Annually.

Standards

- No statutory standards.

Lake Districts

Layer Status

- Ashland County does not have lake districts.

Native American/Tribal Lands

Layer Status

- Layer is complete.

Custodian

- The Bad River Band of Chippewa Indians.

Maintenance

- The Bad River Band of Chippewa Indians maintains the layer.

Standards

- No statutory standards.

Other Administrative Districts

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

Layer Status

- County Forest layer is 100% complete by the State of Wisconsin.
- Parks layer is 100% complete.

Custodian

- State of Wisconsin.

- GIS Coordinator.

Maintenance

- No current maintenance cycle determined.

Standards

- No statutory standards.

Other Layers

Hydrography Maintained by County or Value-Added

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

Layer Status

- Completed by Ayres Associates from LiDAR from 2015 and 2020 with additions from GIS Coordinator.

Custodian

- GIS Coordinator.

Maintenance

- No maintenance cycle.

Standards

USGS Elevation-Derived Hydrography Specifications

Cell Phone Towers

Layer Status

- Ashland County maintains a database of cell tower locations throughout the county as each site is assigned a 911 address. The Ashland County Sheriff's Department utilizes cell tower locations to help narrow an incident location if a cell phone call location does not plot on the Dispatch map. The Zoning Department issues permits for cell phone towers, with the permits attached to the parcels through their Permit Tracking software.
- GIS Coordinator layer is 100% completed.

Custodian

- GIS Coordinator.

Maintenance

- Updated as new addresses for cell phone towers occur.

Standards

- No statutory standards.

Bridges and Culverts

Layer Status

- Highway Department maintains an inventory for culverts on the county highway system. Highway Department has access to an inventory for all local bridges. This data layer is 100% complete.
- Regional GIS professionals are working to build a database of all culverts in the Ashland and Bayfield County area.
- A bridge layer was created in 2019 in the GIS Department. It was based off the DOT information.

Custodian

- The Highway Department is the custodian for the culverts inventory. The GIS coordinator is the custodian of the GIS layer from this inventory.
- GIS Coordinator is custodian of the bridge layer.

Maintenance

- Annual maintenance cycle determined for bridge layer.
- Highway Department updates their culvert inventory every 2 years and GIS data will follow this schedule.

Standards

- No statutory standards.

Other/Miscellaneous

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

Layer Status

- Pipelines- Completed
- Railroads- Completed.
- Non-Metallic Mining- 0%, incomplete.
- Sinkholes- 0%, incomplete.
- Manure Storage Facilities- 100% complete.

Custodian

- GIS Coordinator.

Maintenance

- No current maintenance cycle determined.

Standards

- No statutory standards.

Managed Forest Lands

Layer Status

- Layer is archived due to the WI DNR sharing their tax law points layer on ArcGIS Online.

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 Ashland County's Land Information System

The diagram in *Figure 1* is a representation of inter-organizational duties and tasks of individuals, offices and organizations that contribute to Ashland County's land information system.

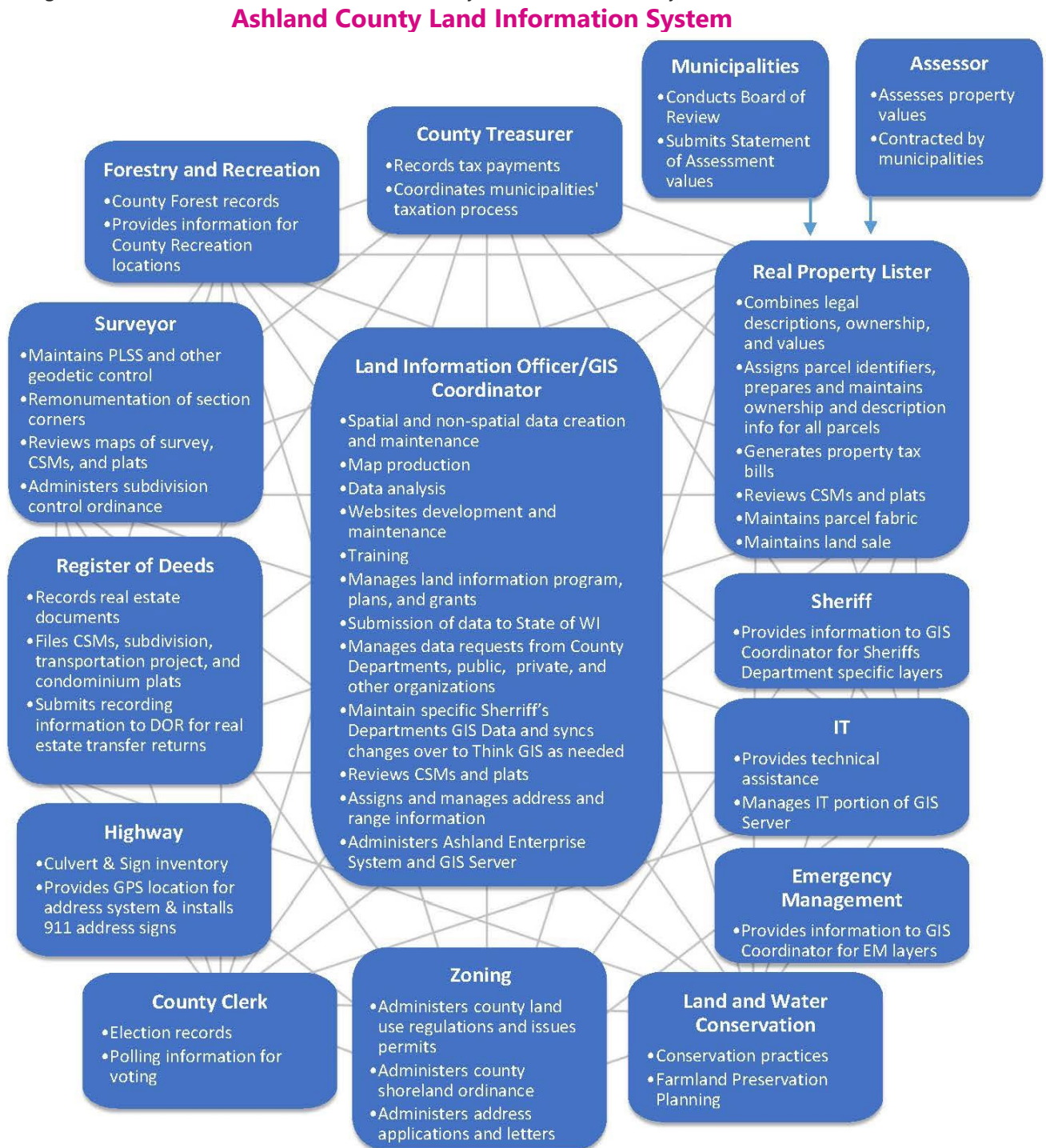


Figure 1. The Ashland County land information diagram

County Parcel Data Workflow Diagram

The Diagram in *Figure 2* documents Ashland County's parcel mapping and tax roll data development and maintenance workflow.

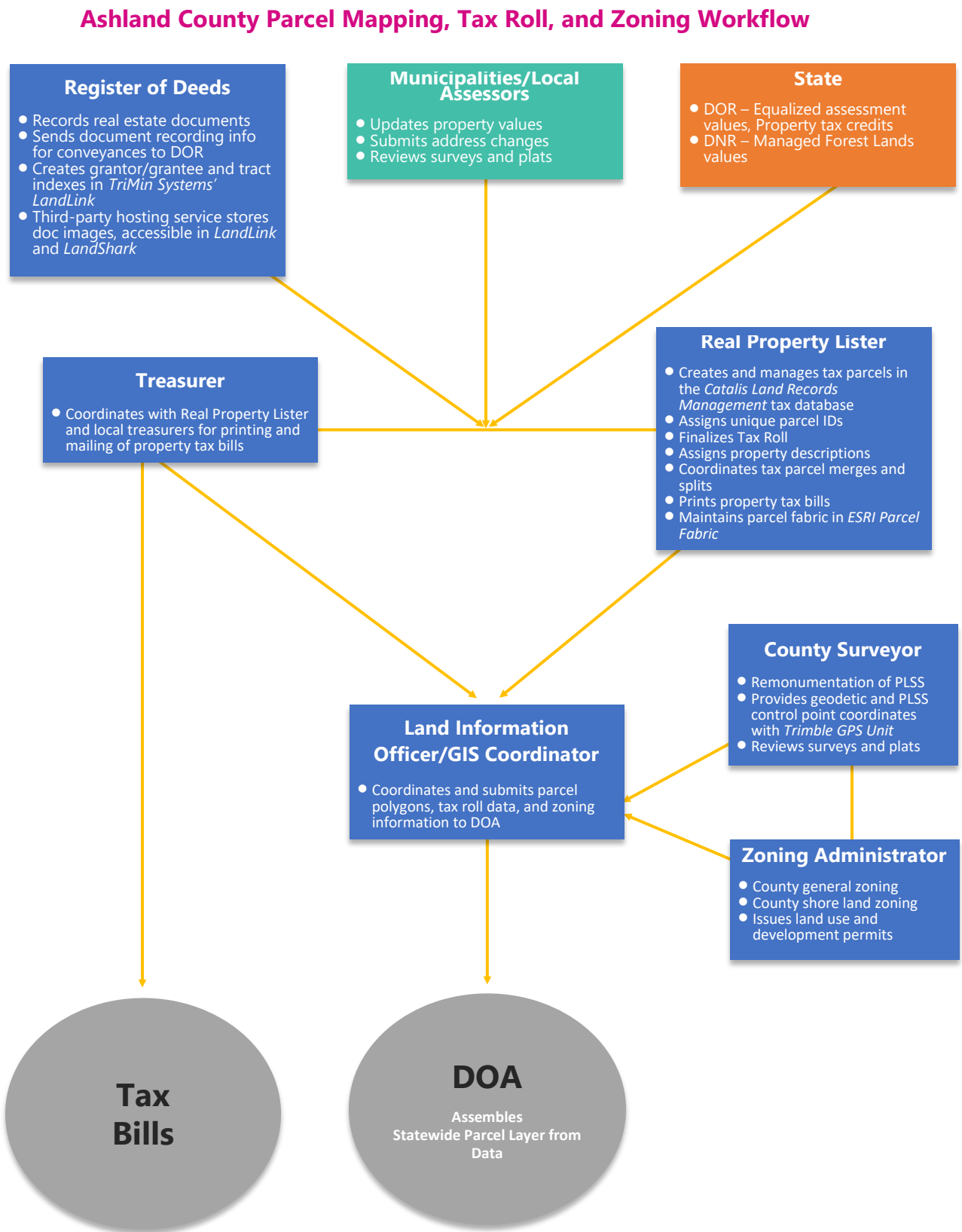


Figure 2. The Ashland County parcel workflow

Technology Architecture and Database Design

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

Hardware

- The county utilizes an industry standard IPV4 networking environment organized by *Microsoft Domain Controller* servers and a network-switching environment. Most networking hardware is based on modern Gigabit twisted copper, with fiber optic between disparate county departments and the City of Ashland. All end user computer work stations are based on *Microsoft* operating systems enrolled in a *Microsoft Active Directory* management system.
- The ArcGIS Enterprise system is running on a virtual server.

Software

- The county's information systems incorporate both database driven applications and user defined file management systems. Databases employed include Microsoft SQL server and Microsoft Access databases. The end user file management system is based on Microsoft Server System file server services.
- **ESRI's ArcGIS Desktop** – ArcGIS Desktop's standard license and the 3D Analyst extension utilized in the county, along with a few basic licenses.
- **ESRI's ArcGIS Pro** – ArcGIS Pro is now used by the GIS Coordinator for creating, storing and maintains the geographic land information.
- **ESRI's Enterprise** – ArcGIS Enterprise is now utilized in the county to share information internally. ESRI's ArcGIS Online – Utilized to share information publicly and utilized for the Land & Water Conservation Department.
- **Catalis/LandNav Software Treasurer's Collections and Property Assessment**– Tax and assessment databases and issuance of tax bills.
- **Simple Software by contractor/vendor TriMin Systems** – Document scanning
- **ESRI's Address Data Management Solution** – address management tools.
- **County currently uses ArcGIS Pro:** Yes. GIS Coordinator/LIO uses ArcGIS Pro.
- **County plans to upgrade to ArcGIS Pro:** Yes, if other GIS users wish to switch they should switch before ArcGIS Desktop is "end of life".

Website Development/Hosting

- The county's website is hosted by GovOffice and updated by county employees.
- **ArcGIS Online** –the county's main public web mapping system.
- **ArcGIS Online, Survey123, and Field Mapping**– Ashland County is now a verified organization account. It is used for public mapping, such as current road closures and our land sale properties, and for specific multiuser projects. Land & Water Conservation Department has a collection of web maps and field maps for collecting data. The Highway Department is utilizing the applications to view and collect GIS information.

ArcGIS Enterprise System – Portal, server, data store are being utilized for multi user datasets and specialty datasets like Address Data Management Solution and Parcel Fabric.

- **LandShark by contractor/vendor TriMin Systems** – Web application for public access to real estate documents.

Metadata and Data Dictionary Practices

Metadata Creation

- **Metadata creation and maintenance process:** Metadata is automatically created by ArcCatalog. No maintenance process have been determined.

Metadata Software

- **Metadata software:** ArcCatalog is used to automatically create the metadata.

- The software does generate metadata consistent with the FGDC Content Standard for Digital Geospatial Metadata, and/or ISO geographic metadata standard 19115.
- **Metadata fields manually populated:** Currently no metadata field are manually populated.

Metadata Policy

- **Metadata Policy:** Ashland County does not have a policy on metadata requirements.

Municipal Data Integration Process

- Data integration between the municipalities and Ashland County is on a request basis. No formal process is currently implemented.
- Ashland County works with the municipalities to gather information to update layers. The process involves the GIS Coordinator, the Director of Emergency Management, and the municipality's representatives.
- The City of Ashland is the only municipality in the county that manages its own GIS system.
- In the future, Ashland County is looking towards integrating more of the municipality's data into the County's Land Records.

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://experience.arcgis.com/experience/ec5f66da16d94623bb07443af5e80c4f/	https://data-ashlandcountywi.opendata.arcgis.com/	https://pp-ashland-co-wi-fb.app.landnav.com/Search/RealEstate/Search	https://landshark.co.ashland.wi.us/LandShark/login https://landshark.ashlandcountywi.gov/LandShark/#/
https://experience.arcgis.com/experience/ec5f66da16d94623bb07443af5e80c4f/			

Single Landing Page/Portal for All Land Records Data

URL

<https://ashlandcountywi.gov/gis>

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

URL

<https://ashlandcountywi.gov/gis>

Data Sharing

Data Availability to Public

Data Sharing Policy

- Ashland County provides completely free public viewing access of its land information data at three public access terminals in the Register of Deeds Office. The public can also access this land information over the internet, but cannot view real estate document images unless they are purchased. These purchased document fees are in-line with statutory requirements for reproducing real estate documents.
- Additionally, the county provides digital copies of the tax roll databases to the public upon request on a case-by-case basis. These requests are billed a nominal fee for the cost to reproduce the digital data.
- Ashland County provides free digitally downloadable GIS data to the public, and is currently sharing GIS data when requested.

Open Records Compliance

- The county's land information program provides many options for sharing its land information with the public so that it is compliant with Wisconsin's Open Records Law.

Data Sharing Restrictions and Government-to-Government Data Sharing

Data Sharing Restrictions

- All data and information provided on the county's websites is subject to disclaimers and terms of use statements posted on these sites. Ashland County willingly shares its information as a matter of public record.

Government-to-Government Data Sharing

- Ashland County will provide data without fees to governmental agencies and their agents, and to anyone who requests the data for educational purposes.

Training and Education

- Ashland County staff utilizes WLIP education and training funds to participate in workshops, seminars, and software training. Other training is taken on an as-needed basis when it arises throughout the course of the year. Oftentimes, these take place when new systems or operating procedures are implemented.

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.

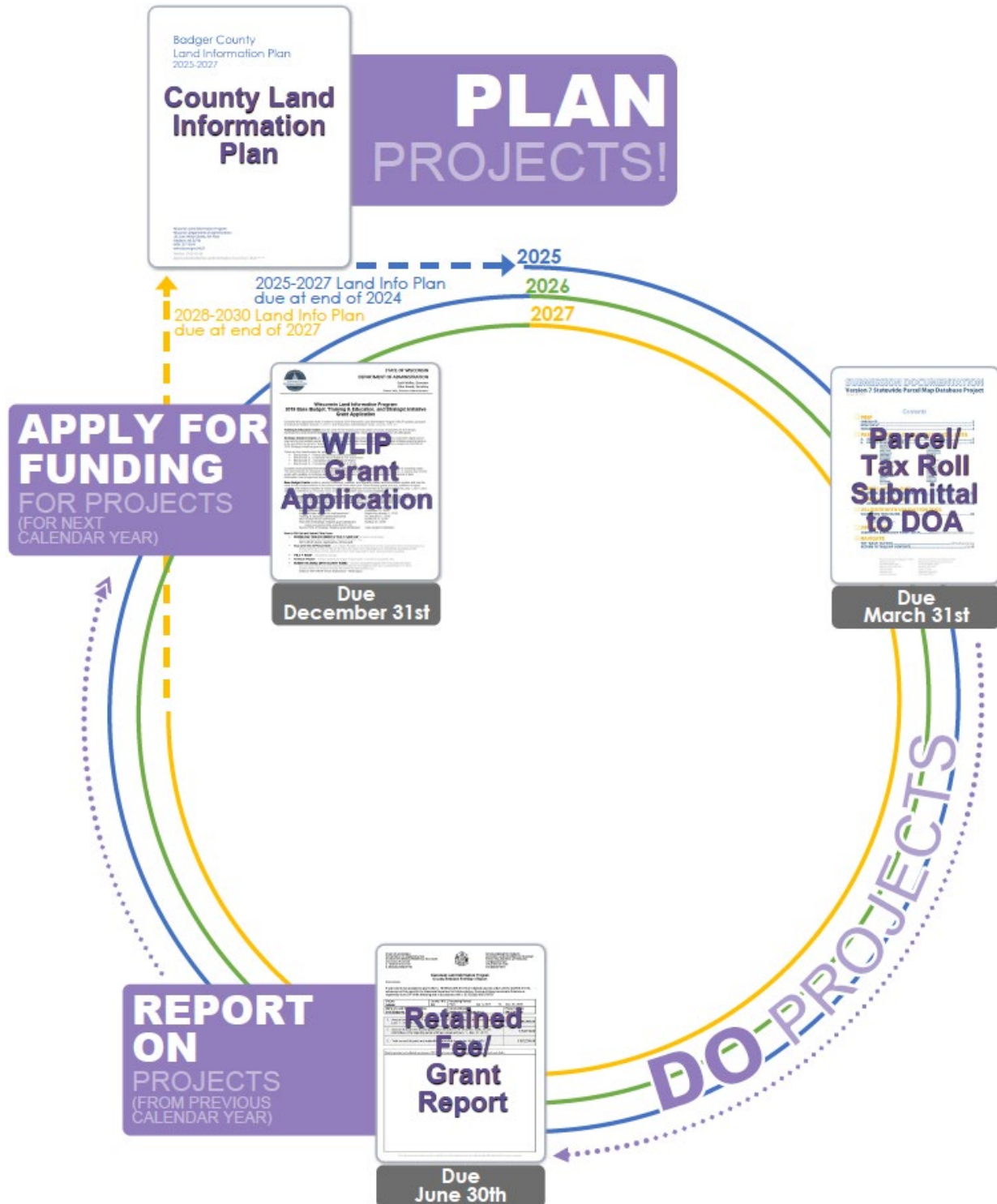


Figure 3. The WLIP Land Information Plan/Grant Project Cycle

Project #1: Project Plan for PLSS (Benchmark 4)

Project Description/Goal

Current Status

- See PLSS Layer Status table in Chapter 2.

Planned Approach

- The County Surveyor will continue to remonument, and establish survey-grade coordinates for PLSS corners and obtain geodetic control where it is currently nonexistent as time allows.
- **PLSS Integration.** GIS Coordinator enters new corners into a PLSS layer quarterly. Then the parcels are updated weekly based on the discretion of the Real Property Lister. Parcels are redrawn based on splits, combinations, or general parcel edits based on Real Property Lister's knowledge of problem areas.

The goal will be to have 100% of the county's PLSS corners remonumented with survey-grade coordinates on file by 2046.

- **Accuracy class for these new coordinates:** Survey Grade.

Missing Corner Notes

- **Documentation for any missing corner data:** The County Surveyor will maintain documentation for any missing corner data for corners that are justifiably excluded such as meander corners, corners on public forest land, etc.

County Boundary Collaboration

- The County Surveyor is reaching out to neighboring counties to discuss shared corners and share data as it is collected.

Business Drivers

- Completion and integration of PLSS will improve the geospatial accuracy of the parcel layer and other county land information system layers.
- Gathering geodetic control on the county's PLSS corners will increase the accuracy of the parcel mapping, which is used by other municipalities, county departments, state agencies, real estate-related businesses, and the public. By increasing the accuracy of the county's parcel maps, the statewide parcel maps will be more accurate.

Objectives/Measure of Success

- The objective is to meet Benchmark 4 (Completion and Integration of PLSS) by: 2046
- Number of corners to be remonumented and/or rediscovered by 2027: 150 more
- Number to have new coordinates established by 2027: 150 more
- Accuracy class for these new coordinates by 2027: Survey Grade
- Number of new corner coordinates to be integrated into the parcel fabric by 2027: 150
- Number of new tie sheets to be posted online by 2027: 150

Project Timeframes

Timeline – Project Plan for PLSS		
Milestone	Duration	Date
Project start	–	Mar 1, 2016
Remonumentation and establishing survey-grade coordinates for PLSS corners	22 years	Mar 1, 2016-Dec 31, 2046
Project complete	–	Dec 31, 2046

Responsible Parties

- The County Surveyor is responsible for PLSS corner remonumentation.
- The GIS Coordinator and the Real Property Lister are responsible for updating the corners in the parcel fabric.

Estimated Budget Information

- Based off the Land Information Plan update Ashland County has 1060 corners remaining to remonument. At 50 years a corner, that is about 22 years.
- Annually our part time surveyor aims to accomplish 50 corners.
- $50 * \$500 = \$25,000$, just in cost of surveys alone.
- Additional \$5,000 for overhead costs
- Approximate budget for this project is \$30,000 annually at the current rates and our part time surveyor's time allowance
- Estimated remaining cost for completion and integration of PLSS (to reach maintenance mode)
 - Estimated approximate average cost of remonumentation per corner: \$500
 - Total cost of remaining remonumentation: \$530,000
 - Total cost of remaining integration of PLSS points into parcel layer: overhead of county
 - Cost of anything else remaining: \$110,000
 - Total remaining cost: \$640,000.
- See table at the end of this chapter.

Project #2: Update Orthoimagery with WROC

Project Description/Goal

- The goal of this project is to update orthoimagery for Ashland County with the Wisconsin Regional Orthoimagery Consortium (WROC) on a 3-5 year cycle, the last orthoimagery was flown in 2023.
- **Land Info Spending Category:** Orthoimagery

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Receive orthoimagery of Ashland County from WROC.

Project Timeframes

Timeline – Project: Update Orthoimagery with WROC in 2023		
Milestone	Duration	Date
Project start	–	Jan 1, 2025
Contractor flies imagery	1 month	
Contractor processes data	1 year	
Project complete	–	Dec 31, 2027

Responsible Parties

- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Project #3: Integrate PLSS layer into Parcel Fabric

Project Description/Goal

- The project is to transfer the updated GIS Coordinator’s PLSS corner layer into the parcel fabric’s points layers. This PLSS corners GIS layer will increase the accuracy of the parcel fabric, which uses the last surveyor’s un-source-able PLSS layer.
- This layer will be integrated into the parcel fabric for more accurate parcel mapping. Currently the layer is in the ArcPro Project that parcel are edited in for snapping referencing, however, it is not integrated in the Esri parcel fabric points layers.
- **Land Info Spending Category:** PLSS

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.
- State of Wisconsin.

Objectives/Measure of Success

- Integrating the plss layer into the parcel fabric.

Project Timeframes

Milestone	Duration	Date
Project start	–	Jan. 1, 2025
Integrate new plss layer into parcel fabric	1 month	
Project complete	–	Dec 31, 2027

Responsible Parties

- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Project #4: Creation of Public Surveyor Documents Map

Project Description/Goal

The goal of this project is to create a web accessible map where people can find public surveyor documents such as tie sheets (certified corners) and Maps of Survey. These documents are already digitally recorded. The project will be to store the digital documents somewhere the public can have access to them and find them in an easy matter, such as linking them to a spatial GIS data layer and keeping server security intact.

Land Info Spending Category: PLSS

Business Drivers

The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

Host documents in house online working with IT.

Create GIS layer for documents to have spatial portion that users can find easily.

Create web map.

Test map.

Publish map.

Project Timeframes

Milestone	Duration	Date
Project start	–	Jan 1, 2025
Host documents online with IT	3 months	
Create GIS data layer	1 month	
Create web map	1 month	
Tests and publish map	1 month	
Project complete		Dec 31, 2027

Responsible Parties

GIS Coordinator.

IT.

Estimated Budget Information

See table at the end of this chapter.

Project #5: Plat Book Update

Project Description/Goal

- The goal of this project is to update Ashland County's Plat Book.
- First order will be low quantity and we will re order if needed since we have our interactive parcel web map.
- **Land Info Spending Category:** Other (data sharing)

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Contract out book creation.
- Review draft book.
- Receive delivery of books and sell books.

Project Timeframes

Milestone	Duration	Date
Project start	—	Jan 1, 2025
Contractor creates book	3 months	
Review draft book	1 month	
Final deliverable		
Project complete		Dec 31, 2027

Responsible Parties

- Real Property Lister.
- Land Information Council.

Estimated Budget Information

- See table at the end of this chapter.

Project #6: Back indexing ROD documents

Project Description/Goal

- The goal of this project is to continue efforts in back indexing ROD documents. Today Ashland County is indexed from present to about 1950
- To stream line back indexing the ROD office will look into hiring an LTE.
- **Land Info Spending Category:** Other parcel work

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Past documents indexed
- These past index documents available online

Project Timeframes

Milestone	Duration	Date
Project start	–	Jan 1, 2025
Index past recorded documents		2025-2027
Project complete		Dec 31, 2027

Responsible Parties

- Register of deed and ROD staff.

Estimated Budget Information

- See table at the end of this chapter.

Project #7: Physical Server Machine & Enterprise Migration

Project Description/Goal

IT is recommending that the physical machines be updated every 5 years. The existing machine is from 2019. The server machine hosts the Ashland Enterprise system and the PostgreSQL Databases.

Land Info Spending Category: Hardware

Business Drivers

The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Purchasing a new physical machine.
- Set up of the machine.
- Migrating the Enterprise system to the new machine.

Project Timeframes

Milestone	Duration	Date
Project start	–	Jan. 1, 2025
Purchase machine	3 months	
Set up machine	1 month	
Migrate Enterprise	1 month	
Project complete	–	Dec 31, 2027

Responsible Parties

- GIS Coordinator.
- IT.

Estimated Budget Information

See table at the end of this chapter.

Project #8: Building out ArcGIS Online Datasets and Web Maps

Project Description/Goal

As Ashland County transitioned from WGX to ArcGIS Online for its public maps in 2024, we would like to continue to publish more datasets, create web maps, and applications.

Land Info Spending Category: Website Development/Hosting Services

Business Drivers

The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

Creation and/or publishing of datasets.

Set up web maps and testing

Set up of applications and testing

Publishing

Project Timeframes

Milestone	Duration	Date
Project start	—	Jan. 1, 2025
Create and share datasets	3 months	
Set up web maps and apps	2 month	
Project complete	—	Dec 31, 2027

Responsible Parties

GIS Coordinator.

Estimated Budget Information

See table at the end of this chapter.

Completed Projects

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

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

Project Description/Goal

How Searchable Format Will Be Maintained

Ashland County will maintain the searchable format by continuing to integrate property and ownership records with the digital parcel maps by linking data through the PIN field.

Currently, the county maintains parcel/tax roll data in such a way that **requires significant formatting every year**— completed by the GIS Coordinator, in-house.

Work needs to be done to make our attribute data standardized with the state submission request that requires little to no formatting.

Business Drivers

The Project Plan to Maintain Searchable Format for Benchmarks 1 & 2 is a requirement for those counties who utilize Strategic Initiative funds for parcel/tax roll formatting to prepare the data submission to DOA.

GIS Department, Land Description Department, the public and private sector.

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) without extreme formatting before data submission.

Project Timeframes

Timeline – Project Plan to Maintain Searchable Format		
Milestone	Duration	Date
Project start	–	January 1, 2019
Format data for standardization	3 month	January 1-30, 2019
Project complete	–	March 1, 2019

Responsible Parties

Real Property Lister.
GIS Coordinator.

Estimated Budget Information

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

Project Completed: Update Orthoimagery with WROC in 2020

Project Description/Goal

The goal of this project is to update orthoimagery for Ashland County with the Wisconsin Regional Orthoimagery Consortium (WROC) and Ayres Associates in 2020.

Land Info Spending Category: Orthoimagery

Business Drivers

The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

Receive the orthoimagery of Ashland County from Ayres Associates.

Project Timeframes

Timeline – Project #3 Update Orthoimagery with WROC in 2020#1 Title		
Milestone	Duration	Date
Project #1 start	–	Jan 1, 2020
Contractor flies imagery	1 month	Spring, 2020
Contractor processes data	1 year	2021
Project complete	–	Dec 31, 2021

Responsible Parties

Ayres Associates.

Estimated Budget Information

See table at the end of this chapter.

COMPLETED

Project Completed: Create and Publish Open Data Site

Project Description/Goal

- The goal of this project is to create an Ashland County GIS Open Data site that allows the public access to some of Ashland County's GIS Data for viewing and downloading.
- **Land Info Spending Category:** Website Development/Hosting Services

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Create and publish an Ashland County Open Data website.
- Upload some layers to ArcGIS Online for public access on the website.

Project Timeframes

Timeline – Project #4 Create and Publish Open Data Site		
Milestone	Duration	Date
Project #2 start	–	Aug 1, 2018
Enable Open Data page	1 day	Aug, 2018
Format Open Data webpage	4 months	Aug, 2018; Nov 1, 2018 – Jan 30, 2019
Finalize data layers and upload to ArcGIS Online for Open Data site	4 months	Feb 1–June 31, 2019
Project complete	–	Dec 31, 2019

Responsible Parties

- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Project Completed: Arc Enterprise implementation

Project Description/Goal

- Implementation of Arc Enterprise for Ashland County's GIS. The need for the Enterprise is to have the ability to self-host our parcel map website for departmental use and for the public. The other goal of this is to connect the current Ashland County's GIS users. Enterprise will allow mapping layers to be drawn from the same source and updated across these 5 users automatically.
- **Land Info Spending Category:** Hardware/software

Business Drivers

- Ashland County Departments, the public sector, private sector, and other governmental organizations.

Objectives/Measure of Success

- Purchasing Enterprise package from ESRI.
- Installation process of the Enterprise.
- Attending trainings.
- Granting 5 departments or users access to the creator side of Enterprise. (Unlimited viewers).

Project Timeframes

Timeline – Project #: Arc Enterprise implementation		
Milestone	Duration	Date
Project #6 start	-	Jan 1, 2019
Purchase Enterprise		
Install enterprise	3 days	
Attend training on Enterprise	5 days	
Begin working with Enterprise		
Project complete	-	Dec 31, 2019

Responsible Parties

- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Project Completed: Dispatch Mapping Software

Project Description/Goal

- To stream line the Ashland County Dispatch mapping system striving for efficiency and mapping laymen's usability to create an all-encompassing mapping system for quicker dispatching times. Utilizing the GIS Coordinators position to aid the Dispatchers in having accurate and up to date data.
- Build Ashland County's GIS data to provide Dispatchers with data they will need to more efficiently conduct their duty. This include insuring data is accurate and up to date, creating new data such as recreation areas, campgrounds, hiking trails, pipelines, utility lines, and others.
- **Land Info Spending Category:** Software

Business Drivers

- Ashland County Sherriff's Department
- The public sector
- State of Wisconsin

Objectives/Measure of Success

- Choosing the vendor that best fits our needs.
- Purchase and installation of software.
- Collaboration with vendor to integrate Ashland County's data into the software.
- Training of the new software.
- Making the final switch to using the new software in Dispatching.

Project Timeframes

Timeline – Project # Dispatch Mapping Software		
Milestone	Duration	Date
Project #5 start	–	Sept. 1, 2018
Choose vendor	1 year	
Purchase and install	1 month	
Integrate data and build geo locates	2 months	
Training	1 week	
Final switch from old to new software	1 week	
Project complete	–	Dec 31, 2019

Responsible Parties

- Sherriff's Department- Director of Public Safety Communications, Director of Emergency Management, IT Director, and the Chief Deputy
- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Project Completed: Address Structure points & verification between datasets

Project Description/Goal

- The GIS Coordinator is working towards manually creating a structure point in association to the driveway access point. This layer is about 25% complete.
- It is the county's goal to integrate the 911 addressing data with the parcel map. The GIS Coordinator in association with the structure point project has begun confirming the address data matches across these two layers.
- **Land Info Spending Category:** Other NG911

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Completing all structure address points.
- Confirming the parcel address data matches the address point data and vice versa.

Project Timeframes

Milestone	Duration	Date
Project start	-	Jan 1, 2022
Work by each municipality to manually create structure points and verify parcel address data at the same time	3 years	
Project complete		Dec 31, 2024

Responsible Parties

- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Project Completed: Lidar derived data products

Project Description/Goal

The goal of this project is to update Ashland County's lidar derived layers that are of high use, such as contours, hydro breaklines, building foot prints.

Some layers will be attempted to be created in house and some layers will be contracted out.

Land Info Spending Category: Lidar

Business Drivers

The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

Creation of Lidar derived data layers:

- Contours
- Building footprints
- Hydrobreak lines
- DEM
- Hillshade

Project Timeframes

Milestone	Duration	Date
Project start	-	Jan 1, 2022
Lidar data delivery from USGS		PAST DUE Feb,1 2021
Create data in house		2022
Contract out data creation		2022
Project complete		Dec 31, 2022

Responsible Parties

GIS Coordinator.

Estimated Budget Information

See table at the end of this chapter.

Project Completed: Host an interactive parcel map website

Project Description/Goal

- Ashland County currently has an interactive parcel map contracted with WGX. Now that Ashland has a GIS Coordinator, transitioning to a self-hosted parcel map will increase the interactive map's user abilities, rate of changes to the site, and layers available on the site.
- **Land Info Spending Category:** Website Development/Hosting Services

Business Drivers

- The public sector, private sector, Ashland County Departments, and other governmental organizations.

Objectives/Measure of Success

- Create map document that will be the interactive web map.
- Launch the new interactive parcel map.

Project Timeframes

Milestone	Duration	Date
Project start	-	Jan. 1, 2022
Consult with IT on security	3 months	
Create online map in ArcGIS Pro	3 months	
Consult with GCS on how to link nightly updated files to parcel geometry	2 weeks	
Test then launch the new site	2 weeks	
Project complete	-	Dec 31, 2022

Responsible Parties

- GIS Coordinator.

Estimated Budget Information

- See table at the end of this chapter.

Estimated Budget Information (All Projects) 2025-2027

Estimated Budget Information

Project Title	Item	Unit Cost/Cost	Land Info Plan Citations Page # or section ref.	Project Total
1) Project Plan for PLSS (Benchmark 4)	Remonumentation of PLSS corners- County Surveyor	50 corners * \$500 = \$25,000 just in cost of surveys; \$5,000 overhead cost.	Page 8	Annually 30,000
				\$90,000
2) Orthoimagery	6 Inch leaf off 4 band imagery	Contract cost estimate	Page 14	90,000
				\$90,000
3) Integrate PLSS layer into parcel fabric	Remove current control points and add in the new PLSS layer into parcel fabric	GIS C. salary at 40 hours * \$31	Page 8-10	1,240
				\$1,240
4) Public Surveyor Documents Web Map	Creation of GIS data and web map	GIS C. salary 700 hours*\$31	Page 8, 28	21,700
				\$21,700
5) Plat Book update	Contract Plat Book	500 11x15 books * \$17 = \$8,500	Page 38	10,000
				\$10,000
6) Back Indexing	Hiring an LTE to back index	\$21.00*300 hours a year = \$6,300	Page 39	6,300
				\$18,900
7) Physical Server Machine & Enterprise Migration	Purchase new server machine Esri Partner Vendor Enterprise migration	Estimate \$10,000 Estimate \$10,000	Page 28	10,000 10,000
				\$20,000
8) Building out ArcGIS Online datasets and web maps	Creation of GIS data and web map	GIS C. salary 700 hours*\$31	Page 28	21,700
				\$21,700
GRAND TOTAL				\$273,540

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

