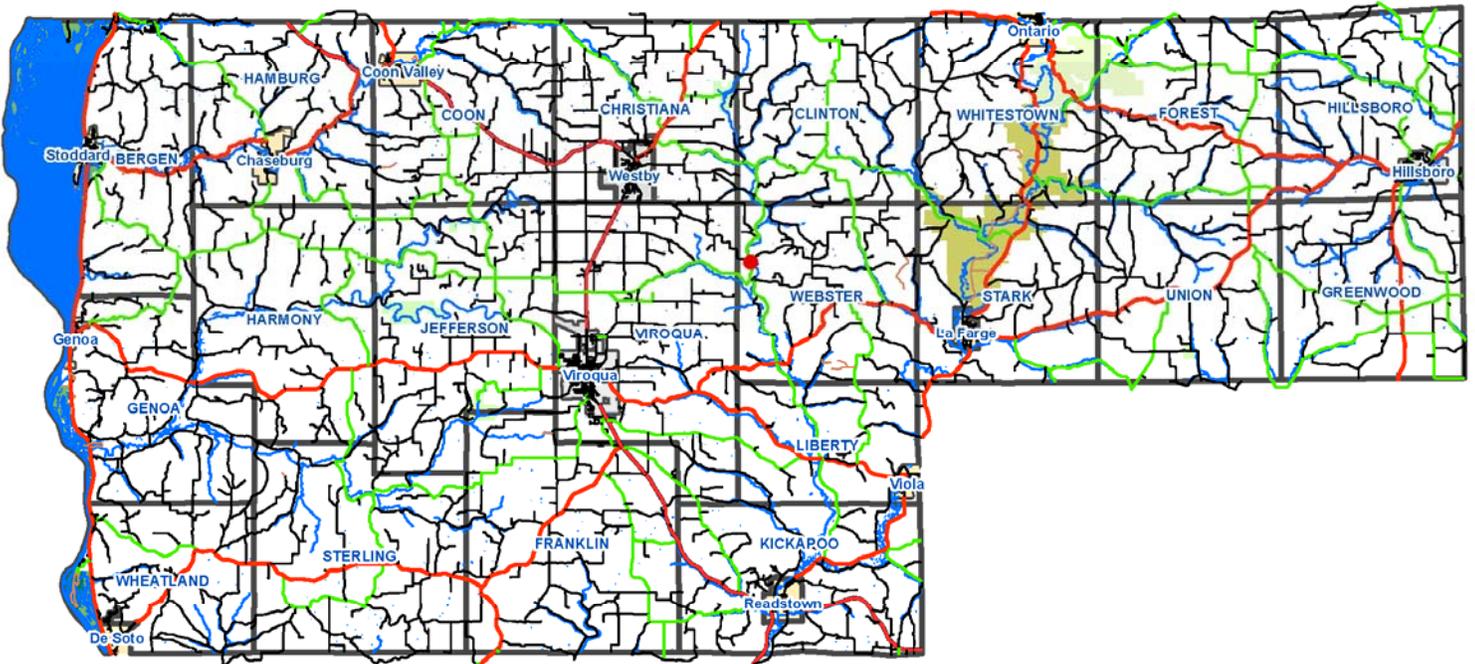


2010-2015 Land Records Modernization Plan Vernon County, Wisconsin



**Prepared by the GIS Coordinator
& Reviewed by the Vernon County Land Information Council
September 2010; February 2011**

**Submitted to the Wisconsin Department of Administration for Peer Review
November 1, 2010**

**Peer Reviewed By:
La Crosse County, 12/17/2010
Pierce County, 1/4/2011**

Resolution No. 2011-15

Approval of 2010-2015 Land Records Modernization Plan

WHEREAS, A Land Records Modernization Plan was created and approved in 1994 to allow Vernon County's participation in the Wisconsin Land Information Program; and,

WHEREAS, A 1999 Plan Update was approved under Resolution No. 2000-11 and replaced the 1994 Plan as the new Vernon County Land Records Modernization Plan; and,

WHEREAS, A 2005 Plan Update was approved under Resolution No. 2005-29 and replaced the 1999 Plan as the new Vernon County Land Records Modernization Plan; and,

WHEREAS, This 2010-2015 Plan is an update to the 2005 Land Record Modernization Plan and replaces the 2005 Plan,

NOW THEREFORE BE IT RESOLVED, that the Vernon County Board of Supervisors does hereby approve this updated Vernon County Land Record Modernization Plan

Submitted by the Vernon County Land Information Council.

Fiscal Note: The State of Wisconsin does not require County Board Approval of a County Land Records Modernization Plan; however it is common practice throughout the state to have the plan approved by the County Board. If a county does not have a current Land Records Modernization Plan it will be ineligible for Wisconsin Land Information Program (WLIP) funding (i.e. Retained recording fees, Public Access recording fees, and WLIP Grants), which in Vernon County amount to between \$40K and \$50K annually.

Will Beitlich
Will Beitlich, LIC Chair

2/2/11
Date

STATE OF WISCONSIN COUNTY OF VERNON

I, Ronald C. Hoff, County Clerk of Vernon County do hereby certify that the attached document is a true and correct copy of the original resolution required by law to be in my custody and approved by the Vernon County Board of Supervisors at a meeting held April 19, 2011.

Dated: April 27, 2011

Ronald Hoff
Ronald C. Hoff, Vernon County Clerk

**VERNON COUNTY WISCONSIN
2010 Land Records Modernization Plan**

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I. EXECUTIVE SUMMARY

A. Designated Plan Contact

The designated contact person regarding this plan is Doug Avoles, the Vernon County GIS Coordinator/LIO, Rm 211 Banta Bldg., Courthouse Square, Viroqua, WI 54656; phone: (608) 637-5314, email: davoles@vernoncounty.org .

B. Plan Preparation

The 2010 Vernon County Land Records Modernization Plan was prepared by the Vernon County GIS Coordinator/LIO with review and input by the Vernon County Land Information Council and selected County staff.

Land Information Council:

Will Beitlich, Chair, District 1 Supervisor
Maynard Cox, Vice-Chair, District 7 Supervisor
James Servais, District 5 Supervisor
John McClelland Jr., District 6 Supervisor
Raymond Moser, District 12 Supervisor
Hugh Harper, Assessor, Appointed Public Member
Kelly Jacobs, County Conservationist, kjacobs@vernoncounty.org, (608) 637-5475
Konna Spaeth, Register of Deeds, kspaeth@vernoncounty.org, (608) 637-5371
Rachel Hanson, Treasurer, rhanson@vernoncounty.org, (608) 637-5367
Bruce Olson, Dispatch Director, bolson@vernoncounty.org, (608) 637-5312
Susan Burkhamer, Zoning Administrator, sburkhamer@vernoncounty.org, (608) 637-5271

Selected County Staff:

Monique Hassman, GIS Technician, mhassman@vernoncounty.org
Ben Wojahn, Project Manager-GIS Specialist, bwojahn@vernoncounty.org
Matt Dahlen, Real Property Lister, mdahlen@vernoncounty.org
Greg Lunde, Corporation Counsel, glunde@vernoncounty.org
Connie McCullick, Information Technology Director, cmccullick@vernoncounty.org
Glenda Sullivan, Emergency Management Director, gsullivan@vernoncounty.org

This plan has also been posted to the Vernon County Web Site, and can be found at the following web address: **<Insert web address when completed>**

Local municipalities in Vernon County; local officials from the Natural Resource Conservation Service (NRCS), Farm Service Agency (FSA), Wisconsin Department of Transportation (Wi DOT), and Wisconsin Department of Natural Resources (Wi DNR); the Mississippi River Regional Planning Commission; the Upper Mississippi River National Wildlife & Fish Refuge; representatives from local utilities; and the Land Information Officers in each neighboring county will be sent notification of the final plan when it is posted.

C. Summary

Vernon County is still primarily in the developmental stages of creating a modernized land information system. Over the next several years Vernon County hopes to transition into more of a maintenance and application refinement stage.

This plan identifies specific goals and objectives, it addresses progress made, and it details ongoing and new initiatives for land information management in Vernon County. It identifies the custodial responsibilities of County departments related to land information, and it assesses Vernon County's status and compliance with Wisconsin Land Information Program (WLIP) Framework Data/Foundational Elements and their associated standards.

This plan is intended to satisfy the planning requirement of the WLIP as well as providing Vernon County Officials, local municipality officials, other participants, and interested groups or individuals with basic knowledge of land record modernization and its potential implementation in Vernon County.

This plan is also intended to serve as a general guide for the future responsibilities and tasks performed by the Vernon County Land Information Office and other participant departments.

D. County Sponsored Land Information Websites:

Non Map Based Sites:

- Tax & Assessment Information, <http://vernonwi.mapping-online.com/VernonCoWi/>
- Register of Deeds Recorded Documents, <http://vernonwi.roddirect.com/Default.aspx>
- County Surveyor Files, <http://www.vernoncounty.org/GIS/index.htm>

GIS/Map Based Sites:

<Insert web address when available>

E. Municipal Sponsored Land Information Websites:

Not aware of any at this time.

II. LAND INFORMATION MODERNIZATION AND INTEGRATION PLAN

Wisconsin Land Information Vision

In 1996 the Wisconsin Land Information Association developed the following vision for land information in Wisconsin:

Land Information is a well managed resource that is an integral part of public and private policies and operation, it is universally accessible, it is useable by all citizens to serve improved decision making and broad social purposes, and it furthers the public good.

It is Vernon County's intention to create a modernized land information system that can be compared to the stated vision and deemed to satisfy the general intent.

A. Goals & Objectives

1. The goals of Land Information Modernization in Vernon County are to:

- Create a cost effective, accurate, secure, *translatable*, and easily accessible, Land Information System, with uniform record standard, which can be easily maintained.
- Facilitate communication between external and internal land records users and generators regarding changing technology and improving usability.
- Educate land records users and the general public regarding land record information and availability

To achieve the stated goals, the following objectives and associated tasks have been or still need to be carried out.

Objective 1: Establish & Facilitate the Maintenance of a Geodetic Control Network

Completed: Completed; ongoing facilitation of maintenance

Background: A geodetic control network provides the basis for registering all digital map data layers to a common coordinate system. Vernon County's geodetic control network consists of approximately 57 monuments that were established by the WI DOT in 2003-2004 as part of the Wisconsin Height Modernization Program effort, <http://www.sco.wisc.edu/surveying/hmp.php>. This control network will allow many professionals to utilize GPS equipment for surveying, inventory, construction, planning, and mapping. The increased use of GPS equipment by these professionals will result in lower land information maintenance costs by the County and local municipalities because the digital information produced will be able to be entered directly into the County's GIS. The initial and most direct benefit that the County is receiving from the completion this objective is that in most instances it allows for the fastest and least costly determination of coordinates for the Public Land Survey System (PLSS) corners described in Objective 2.

Task 1.1: Establishment of geodetic control monuments & network
Completed: 2004
Performed By: Wi DOT

Task 1.2: Maintenance of geodetic control monuments & network
Anticipated Completion: Ongoing
Performed By: Wi DOT

Task 1.3: Reporting of condition, damage, or threats to geodetic control monuments
Anticipated Completion: Ongoing
Performed By: Local surveyors, federal/state/county users, & Wi DOT

Task 1.4: Determine NAD83(91) coordinate values for geodetic control points
Anticipated Completion: as needed for mapping and data development work
Performed By: LWCD-Land Information Office, and/or other

Objective 2: Complete Public Land Survey System (PLSS) Remonumentation & Acquire Coordinates for Remonumented PLSS Corners; Maintain PLSS Corners and Information

Anticipated Year of Completion: Initially by 2020; ongoing refinement & maintenance

Background: The PLSS is ultimately the basis for all real-estate property descriptions from which all tax parcels are created and assessed. This will essentially create a framework of section, quarter, and quarter-quarter lines approaching survey level accuracy from which to “tie” all parcel mapping and other map data layers together.

Task 2.1: Continue Vernon County PLSS Corner Bounty Program
Anticipated Completion: 2020
Performed By: Vernon County Land Information Council

Task 2.2: Determine, establish, and conduct special remonumentation projects for specific areas to support other needs such as parcel mapping
Anticipated Completion: 2020
Performed By: Vernon County Land Information Council, and/or LWCD-Land Information Office; WI Professional Land Surveyors

Task 2.3: Maintain PLSS Corners & Associated Information
Anticipated Completion: Ongoing
Performed By: Vernon County Land Information Council, and/or LWCD-Land Information Office; WI Professional Land Surveyors

Objective 3: Develop & Acquire Digital Map Data Layers for Use in An Integrated Geographic Information System (GIS)

Anticipated Year of Completion: Ongoing

Background: The data layers in the GIS are used and required by the general public, lending institutions, title & abstract companies, surveyors, county officials, local municipalities, school districts, realtors, assessors, utility companies, law offices, farmers, Federal agencies (e.g. NRCS, FSA), State agencies (e.g. WIDNR, WIDOT) and several County departments (i.e. Zoning & Sanitation, Land & Water Conservation, Register of Deeds, Real Property Lister,

Treasurer, Clerk, Sheriff, Dispatch, Emergency Management, and Highway) for performing daily work, for planning, for making policy decisions, and for responding to emergencies. The data layers that are listed are not necessarily new, but are commonly used by the above types of users primarily in a hardcopy form. By making these data layers digital and referencing them to a common coordinate system, they will be easier and less costly to maintain and distribute. Also, these types of data in a digital form allow for the performance of analyses that would not otherwise be cost/time feasible using hardcopy forms. All data layers are or will be referenced to the Vernon County - Wisconsin Coordinate Reference System (WISCRS) as defined in **Wisconsin Coordinate Reference Systems - 2nd Addition** (2009, Wisconsin State Cartographer's Office).

Task 3.1: Acquire Wisconsin Department of Natural Resources (WiDNR) Wetlands
Completed: 2008, acquire updates as they may become available
Performed By: LWCD-Land Information Office

Task 3.2: Acquire U.S.G.S. Digital Raster Graphics (DRGs)
Completed: 2009
Performed By: LWCD-Land Information Office

Task 3.3: Acquire NRCS SSURGO certified soils
Completed: ?; update as available
Performed By: LWCD-Land Information Office; U.S.D.A. Natural Resources Conservation Service (NRCS)

Task 3.4: Obtain the updated Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping (FIRM)
Anticipated Completion: mid to late 2011
Performed By: WI DNR and FEMA, LWCD-Land Information Office

Task 3.5: Acquire/Create mapping of geodetic control points & network
Anticipated Completion: 2010
Performed By: LWCD-Land Information Office

Task 3.6: Create PLSS corner mapping
Anticipated Completion: Ongoing; 2020
Performed By: LWCD-Land Information Office

Task 3.7: Create & maintain county wide cadastral parcel mapping
Anticipated Completion: 2020
Performed By: LWCD-Land Information Office, Real Property Lister

Task 3.8: Maintain & update street address and street network system mapping
Anticipated Completion: Ongoing
Performed By: Dispatch, LWCD-Land Information Office, Real Property Lister

Task 3.9: Create school district mapping
Completed: 2009; update and improve as parcel mapping is completed
Performed By: LWCD-Land Information Office, Real Property Lister

Task 3.10: Acquire 1:24K hydrography from WiDNR

Completed: updates acquired several times during early 2000's; update and improve spatial accuracy following receipt of 2010 Lidar and 12" resolution orthophotography

Performed By: LWCD-Land Information Office, LWCD staff

Task 3.11: Acquire National Agriculture Imagery Program (NAIP) digital orthophotography

Anticipated Completion: 2010/2011; as available thereafter

Performed By: LWCD-Land Information Office

Task 3.12: Acquire 2010 12" spring leaf off digital orthophotography through participation in the Wisconsin Regional Orthophotography Consortium (WROC)

Completed: 2010

Performed By: LWCD-Land Information Office

Task 3.13: Acquire county wide LiDAR data and related surface model supporting FEMA 2-foot contour specs

Completed: 2010

Performed By: LWCD-Land Information Office, Vernon County Land Information Council

Task 3.14: Create minor civil division boundary mapping

Completed: 2009; update and improve as parcel mapping is completed

Performed By: LWCD-Land Information Office

Task 3.15: Create & Acquire local, state, & federal political district mapping

Anticipated Completion: For 2011 Redistricting following 2010 U.S. Census; update and improve spatial representation as parcel mapping is completed

Performed By: LWCD-Land Information Office, County Clerk

Task 3.16: Acquire U.S. Census Bureau boundary mapping & data from 2010 Census

Anticipated Completion: 2010/2011

Performed By: LWCD-Land Information Office, County Clerk

Task 3.17: Create zoning mapping for towns that are zoned

Anticipated Completion: Ongoing; update and improve spatial representation as parcel mapping is completed

Performed By: LWCD-Land Information Office, Zoning & Sanitation

Task 3.18: Create shoreland zoning mapping

Anticipated Completion: 2011

Performed By: LWCD-Land Information Office, Zoning & Sanitation

Task 3.19: Acquire U.S.D.A. Farm Service Agency (FSA) tract & field boundary mapping

Anticipated Completion: Ongoing

Performed By: LWCD

Task 3.20: Create County Forest compartment mapping

Completed: 2008

Performed By: LWCD-County Forester, LWCD-Land Information Office

Task 3.21: Create county snowmobile & recreation trail mapping

Completed: 2009; update as new information becomes available

Performed By: LWCD-Parks, LWCD-Land Information Office

Task 3.22: Create County Park & Forest Boundary Mapping

Completed: 2009, update and improve spatial representation as parcel mapping is completed

Performed By: LWCD-Parks, LWCD-Land Information Office, LWCD-County Forester

Task 3.23: Create or acquire land use mapping

Completed: 2009; update after receiving 2010 orthophotography

Performed By: LWCD-Land Information Office

Task 3.24: Create or acquire bridges/culverts/overhead structures mapping for inventory and sizing purposes

Anticipated Completion: Unknown

Performed By: LWCD-Land Information Office, Highway Department

Task 3.25: Create or Acquire highway control signs/signals mapping for inventory and maintenance purposes

Anticipated Completion: Unknown

Performed By: LWCD-Land Information Office, Highway Department

Task 3.26: Create or Acquire highway facilities (e.g. shops) mapping for routing and planning purposes

Anticipated Completion: Unknown

Performed By: LWCD-Land Information Office, Highway Department

Objective 4: Improve Processes & Procedures for The Management And Use Of Land Information

Anticipated Year of Completion: Ongoing

Background: With the increasing capabilities of computerized technology, the County can make some changes in the way certain land record maintenance procedures are performed, which will result in improved public service and efficiency of operation. Certain prerequisites are necessary in order to achieve some of these efficiencies. Primarily GPS coordinates on PLSS section corners and parcel mapping have to be completed in large part before some new procedure would be beneficial or appropriate.

Task 4.1: Computerize the grantor/grantee and tract Indexes in the Register of Deeds Office

Completed: 1990 and 2000 respectively and is ongoing

Performed By: Register of Deeds

Task 4.2: Develop and or acquire database capability for septic system maintainers to do self-reporting of septic system maintenance and inspections

Anticipated Completion: unknown

Performed By: Zoning Office, Vernon County Land Information Council, LWCD-Land Information Office

Task 4.3: Acquire and or develop a permit tracking system for sanitary and land use permits that integrates with the tax assessment database

Anticipated Completion: unknown

Performed By: Zoning Office, Vernon County Land Information Council, LWCD-Land Information Office

Task 4.4: Continue standardizing data in parcel databases

Anticipated Completion: Ongoing

Performed By: Real Property Lister, Treasurer, LWCD-Land Information Office, Register of Deeds

Task 4.5: Enter property addresses (rural addresses) into the parcel database

Anticipated Completion: Ongoing

Performed By: Real Property Lister, Treasurer, LWCD-Land Information Office

Task 4.6: Facilitate efforts by the local municipalities to collect taxes using the County's supported tax collection computer program

Anticipated Completion: Ongoing

Performed By: Treasurer, Real Property Lister

Task 4.7: Achieve full implementation of an automated transfer procedure for exchanging digital assessment information between assessors and the Real Property Lister.

Anticipated Completion:

Performed By: Real Property Lister, local assessors

Task 4.8: Convert microfilm records to digital

Anticipated Completion: 2016

Performed By: Register of Deeds

Task 4.9: Implement a document imaging system for recorded documents in the Register of Deeds Office.

Completed: 2000 and is ongoing

Performed By: Register of Deeds

Task 4.10: Develop applications with GIS and other software that will improve the efficiency of land information management and use

Anticipated Completion: Ongoing

Performed By: all

Objective 5: Improve Access To & Distribution of Land Information

Anticipated Year of Completion: Ongoing

Background: Land Information that is maintained and used by the County is an important part of the public infrastructure. To reap the greatest benefits from the investment made to modernize land information, it is necessary to maximize the use of the information. The following tasks will create the conditions necessary to distribute land information in the modern computerized world. In addition, traditional forms of land information will be maintained to the extent feasible so that those citizens not capable or willing to utilize the digital forms will still be able to get the information they need.

Task 5.1: Create or acquire metadata for each digital map data layer used in the GIS

Anticipated Completion: As data layers are completed
Performed By: Data Custodians

Task 5.2: Establish a multimedia presentation system in the County Board Room
Completed: 2007
Performed By: Computer Resources

Task 5.3: Establish a centralized GIS network server for distribution of GIS data to County departments
Completed: 2006 for File-Server; 2009 for GIS-Server
Performed By: Computer Resources, LWCD-Land Information Office

Task 5.4: Continue to maintain the county computer network at a sufficient level to adequately support GIS and related land information applications and services
Anticipated Completion: Ongoing
Performed By: Computer Resources

Task 5.5: Establish a set of land information products available to individuals and business that will be produced on request
Completed:
Performed By: LWCD-Land Information Office

Task 5.6: Establish a fee schedule for land information products that will be provided to individuals and businesses on request
Completed:
Performed By: LWCD-Land Information Office

Task 5.7: Create a hardcopy county wall map for the County Board Room
Completed: 2010 and annually or as needed
Performed By: LWCD-Land Information Office

Task 5.8: Create a standard set of digital and/or hardcopy maps for distribution to local municipalities
Anticipated Completion: Annually or ongoing as needed
Performed By: LWCD-Land Information Office

Task 5.9: Establish a GIS based mapping web site for providing the county's land information over the internet to units of government, business, and the public
Anticipated Completion: 2011
Performed By: LWCD-Land Information Office, Computer Resources, Consultants

Task 5.10: Facilitate the establishment of land information kiosks at public locations throughout the County
Anticipated Completion: Unknown
Performed By: LWCD-Land Information Office, Computer Resources, others?

Task 5.11: Maintain GIS software licensing for county departments that can benefit from the utilization of the county's GIS data
Anticipated Completion: Ongoing
Performed By: Applicable Departments, LWCD-Land Information Office, Computer Resources

Objective 6: Increase Knowledge & Use of Modernized Land Information

Anticipated Year of Completion: Ongoing

Background: When a major change is made in the way County business (e.g. exchange of land information) is carried out, employees, local municipalities and citizens need to be made aware of the new tools and methods that can be used to make use of the information. In addition, when a County goes through the process of creating GIS data layers there is often completely new data that is created, and therefore, potential users need to be made aware of what is available.

Task 6.1: Establish a local GIS users group for training & support

Anticipated Completion: Ongoing after significant GIS data has been developed

Performed By: All pertinent participants

Task 6.2: Hold annual progress meetings for County Board Supervisors, staff, and local units of government

Anticipated Completion: Ongoing

Performed By: Applicable Departments, LWCD-Land Information Office

Task 6.3: Attend various County Committee meetings to demonstrate the utilization of land information by county departments

Anticipated Completion: as needed

Performed By: LWCD-Land Information Office

Task 6.4: Develop an educational program for citizen users of computerized land information

Anticipated Completion: Unknown

Performed By: LWCD-Land Information Office

Objective 7: Develop County Policies That Maximize Land Information Related Services & Minimize the Cost of Using, Maintaining, And Distributing Land Information

Anticipated Year of Completion: Ongoing

Background: Implementation of appropriate policy is intended to ensure that all tax payers receive the most efficient and effective government provided land information service in an equitable manner.

Task 7.1: Establish data sharing agreements with state & federal agencies, local business and industry to help defray the cost of data acquisition and maintenance

Anticipated Completion: Ongoing

Performed By: All

Task 7.2: Develop policies that guide the use of WLIP program and any related land information funding for the benefit of county departments

Anticipated Completion: Ongoing

Performed By: Vernon County Land Information Council, County Board, LWCD-Land Information Office

Task 7.3: Develop, monitor, and review county policy on public access to land records consistent with State of Wisconsin Open Records Law

Anticipated Completion: Ongoing

Performed By: Vernon County Land Information Council, County Board, LWCD-Land Information Office

Task 7.4: Develop policy on GIS/mapping support or production for local municipalities, non-profit, quasi-governmental, community service, etc... agencies or organizations

Anticipated Completion: Ongoing

Performed By: Vernon County Land Information Council, County Board, LWCD-Land Information Office

2. Vernon County's Technology Platform/Environment/Database Design

The Vernon County computer network spans seven locations connected by fiber-optic cable. It sits behind a Fortigate firewall and consists of 23 servers and roughly 300 workstations including laptops and desktops. There are two backup servers, two SQL servers, two file servers, a mail server, web server, and ftp server to name a few. Operating systems include Windows Server 2008, Server 2003, Server 2000, Windows XP, and Windows 7. Backup of GIS data is performed on a regularly scheduled basis.

Vernon County utilizes ArcGIS software for development and maintenance of GIS data. As of the date of this plan we are implementing version 9.3.1 and have all licenses under annual support & maintenance and plan to continue to implement upgrades as they become available. As of 2010, we have 2 concurrent use ArcEditor licenses, 3 concurrent use ArcView licenses, and 4 single use ArcView licenses. In 2008, the county purchased an ArcGIS Server Advanced Workgroup for up to two cores license. We also have one concurrent use license for each of the following extensions - Spatial Analyst, 3D Analyst, Publisher, and Survey Analyst. These licenses are primarily used by the Land and Water Conservation Department (LWCD), LWCD-Land Information Office, and Real Property Lister. Other departments/offices that have access to and regularly use ArcGIS include the Dispatch Center in the Sheriff's Department, the Zoning Department, and the Treasurer's Office. The LWCD also has one license of ArcPad for field data collection and use. Several individuals within county departments regularly utilize ArcReader to view GIS data.

Several GIS database formats are being used within the county. Parcel and related parcel framework data is being developed and maintained in an SQL versioned geodatabase format that closely follows the structure of the parcel data model developed and published by Von Meyer, ESRI, the FGDC, and others. As of the date of this plan, E911 rural addressing and related data (i.e. roads, emergency service areas, and address points) is being maintained in an ESRI personal geodatabase format. Most of the remaining GIS data maintained by county staff is stored in ESRI shapefile format. During the planning horizon, we will be working to transfer most of this remaining data into SQL versioned geodatabase format.

Metadata, conforming to FGDC standards, for all data layers created and maintained by the county will be developed and stored/distributed with data layers.

B. Progress Report On Ongoing Activities

While many of the specific goals and objectives identified in the 2005 Vernon County Land Records Modernization Plan were not fully achieved, significant progress has been made in several areas of GIS development and implementation. There has been steady progress made on PLS corner remonumentation. The use of GIS technology has increased in several departments and all major land information users are connected to and have access to GIS data via the county's computer network. Furthermore, during the planning horizon the county network was placed on a fiber-optic backbone. Property assessment & tax information, real estate documents, and land survey maps and PLS records have been made available via the internet. Critical emergency response data (i.e. addressing, road centerlines with address ranges, response districts, accurate minor civil divisions, etc...) in GIS format has been developed and the county's Dispatch Center became Phase II Wireless E911 compliant. GIS data and digital orthophotography are being used daily in the Dispatch Center to update and maintain this critical data as well as assist with emergency response when needed. Also Vernon County has kept pace with GIS software updates and has been able to implement the latest versions of ESRI ArcGIS software.

Some of the goals and objectives that were not fully achieved during the last planning horizon included the completion of parcel mapping and extensive development of metadata for most county maintained GIS data layers. The objective of completing parcel mapping during the planning horizon was made in anticipation that the Wireless E911 Grant from the Wisconsin Public Service Commission would fund 50% of parcel map development and the county would be able to contract this work out. However, the Wireless E911 Grant only funded 25% of parcel map development, and the county could not fund the remaining 75% that would have been needed to complete parcel mapping for the entire county. Therefore, only 3 towns, one city, and two villages were completed. The failure to complete significant metadata was simply of matter of not being able to find the staff time and devote the effort to creating this information when other activities had higher priorities.

Vernon County has steadily increased its utilization of GIS to upgrade and modernize its Land Records since 1994. The Land Information Council has adopted an incremental approach to managing this process constrained only by the fiscal resources made available to it. The following is an updated history from a copy of a handout originally provided to County Board members at a June 1998 presentation to that body:

Brief History of Land Records Modernization in Vernon County

- **November 1993:** County determines to modernize land records and begin retaining funds from recording fees.
.....
- **February 1994:** First meeting of department heads and interested Board members forming the Land Information Committee
- **June 1994:** County departments return questionnaire on land records needs.
- **October 1994:** County Board approved Land Records Modernization Plan.
- **November 1994:** Land Information Committee agrees to join 7-County Digital Orthophotography Consortium to lower costs.
.....
- **May 15, 1995:** Aerial photography taken of the County by Ayres Associates of Madison.

- **October 1995:** 7-County Consortium decides to use Intergraph Geographic Information System computer software.
.....
- **January 1996:** Training in use of computer software and digital orthophotography.
- **March 1996:** Remonumentation of section corners Pilot Project set for 4 sections in Town of Christiana. Ayres Associates wins Wisconsin Association of Consulting Engineers award for the 7-County Consortium project.
- **October 1996:** Land Information Committee asks County Board for an annual budget of \$25,000 for remonumentation of section corners in 1997. This is combined with \$20,000 from LIO budget.
.....
- **March 1997:** Lampman & Associates begins remonumentation and re-establishment of section corners in Vernon County for the first time in 150 years.
- **September 1997:** Register of Deeds begins document conversion and modernization program.
- **December 1997:** Nearly 80 section corners in Towns of Bergen, Hillsboro, and Greenwood established. New brass monuments are set, computer files updated and records of survey work properly filed.
.....
- **January 1998:** County receives grant funds for Parcel Mapping from Wisconsin Land Information Board.
- **March 1998:** Vernon County received “Peoples Choice” award at annual Wisconsin Land Information Association (WLIA).
- **May 1998:** Ayres Associates continues remonumentation project in Towns of Bergen and Greenwood.
- **June 1998:** Over 200 individuals; federal, state and local agencies; and private firms have used the aerial photography, terrain modeling, and interpretation services of the Land Information Office.
.....
- **1998-2004:** The County moved from the Intergraph GIS platform to ArcView 3.3, placing stations in the Zoning and Treasurers Offices who were eventually able to access each other in 2003 . Staff were trained in its use, however, complete integration of its usefulness was not been realized as no one uses the software full time. Parcel mapping began with the use of student interns. The Town of Hillsboro is mapped and linked to an Access database. A total of eight years of remonumentation has taken place through 2004. The most important accomplishment has been the creation and funding of a County Surveyor position. Vernon County has been without this since 1917. A metadata project was completed in 1999 to assess existing needs. ArcView 3.3 was installed on many Land & Water Conservation Department computers and trainings were held for staff. Many of the staff continue to utilize the software for creation of project-specific shapefiles. In 2000, a bounty program was started to being acquiring accurate section corner coordinates from surveyors and consultants in the area missing this location information; reimbursing them for each corner they submitted. In 2003 a Fidar&Chambers workstation was placed in the Treasurer’s office, facilitating records imaging and data sharing with the Register of Deeds office.
.....

- **2005:** ArcGIS 9.0 has been installed in the Land Information Office on a new computer with increased capacity for the more sophisticated software. Publisher, 3D Analyst, and Spatial Analyst have all been installed and are being used for developing new capabilities of existing GIS layers. The wireless 911 grant, if funded, will allow for intensive parcel mapping of the county. Comprehensive addressing is also being planned for the entire county through protocol outlined in an addressing ordinance (currently in draft form). Also, agreements are already in place to distribute digital orthophotography and published map documents to local municipalities using ArcReader software.

.....
- **2005-2010:** The County was awarded a Wireless E911 Grant in 2005. Applied Data Consultants (ADC) of Eau Claire, WI was contracted with to perform rural addressing and related emergency response data layer development, and also to perform parcel mapping in the Towns of Christiana (including the City of Westby), Kickapoo (including the Village of Readstown), and Wheatland (including the Village of DeSoto). In 2007 the County's Dispatch Center implemented Phase II wireless E911 response service using GIS based address and related emergency response data. In 2008 a GIS Coordinator/Planner was hired to provide technical support and mapping for the county and towns working on Comprehensive Plans and to continue to oversee and direct GIS development within the county. Also in 2008 a license for ArcGIS Server at the workgroup and advanced function level was purchased with a WLIP Base Budget Grant. ArcGIS Server allows for more efficient development and use of the county's GIS data as well as allows for the creation and hosting of a GIS based mapping website. In 2009, a county wide land use data layer was completed, a WLIP Base Budget Grant was received to parcel map the Town of Coon, and over 100 maps were made for comprehensive plans. Also in 2009, each Town and all of the Fire Districts in Vernon County were provided an up to date large format base map with rural address numbers and aerial photo backdrops. In 2010, the Towns of Bergen and Coon are being parcel mapped, significant process on PLS corner remonumentation and mapping is being made, and a GIS based website has been developed and will be available for public use by the end of the year.

C. New Initiatives

1. Proposed Projects 2010-2015.

During the planning horizon, Vernon County is intending to undertake the following major initiatives:

Project: Continue an Active PLSS Section Corner Remonumentation Program

Since 1996 Vernon County has had an active PLSS remonumentation program that includes a bounty payment for performing the corner remonumentation, filing a U.S. PLS Monument Record (a.k.a. tie sheet), and providing a Vernon County Coordinate for the corner. Tie sheets are currently reviewed by a contracted review agent. Due to funding and budget limitations, it is anticipated that it will take approximately 10-12 more years to fully complete the initial remonumentation process.

Project: Complete Cadastral Based Parcel Mapping For 50% of the County's Tax Parcels

As County Coordinates are acquired for PLSS section corners, parcel mapping will be performed in those areas. The general parcel mapping process will be performed as follows:

- COGOed surveys (i.e. subdivision plats, CSM's, plats of survey, and highway plans) will be positioned and rotated to GPS/survey based PLSS section corners.
- COGOed survey descriptions will be positioned and rotated to GPS/survey based PLSS section corners.
- COGOed metes and bounds descriptions will be positioned and rotated to GPS/survey based PLSS section corners.
- Research will be performed to find missing deeds and documents that convey town road ROW's to the towns; these will be mapped accordingly.
- Tax parcel lines will be drawn and parcels will be labeled with the county's internal parcel identification number. Parcel lines will be labeled with recorded and or mapped distances as appropriate, and notes will be made indicating possible problems with deed descriptions or survey closure.
- Active easements will be also be mapped as feasible.

In general the current parcel mapping strategy is to complete parcel mapping in a scattered distribution in PLS sections that have fully remonumented exterior section corners, county coordinates and/or accurate land survey information to support cadastral based parcel mapping. When feasible because of grant funding or other priority needs systematic mapping of a specific municipality will be performed. Currently because of a 2009 WLIP Base Budget Grant award, Vernon County is working to complete parcel mapping for the Town of Coon (i.e. T14N R5W). The Town of Coon is one of the towns in the County that has DATCP approved "Farmland Preservation Zoning".

Project: Utilize Digital Orthophotography to Update GIS Datasets

Vernon County is participated in the 2010 Wisconsin Regional Orthophotography Consortium (WROC) and has acquired county-wide, natural color, leaf-off, 12" resolution imagery. Delivery of the final product occurred in late December 2010. Over the next year or so, we plan to update our existing land use and hydrography data layers. Several other spatial data layers developed and maintained by county staff (e.g. contour crop strip mapping, address mapping, forest stands) will also be created and or updated using the digital orthophotography as a base.

Project: Utilize LIDAR Based Ground Surface Elevation Data to Update GIS Datasets

Vernon County received a Community Development Block Grant (CDBG) and acquired county-wide Lidar data. This data resulted in a ground surface model that supports the creation of 2-foot contour data meeting FEMA specifications for floodplain mapping. The acquisition of this data was part of the 2010 WROC Lidar flights. Delivery of the final product occurred in late 2010. The surface elevation model was used for the orthorectification of the WROC acquired digital orthophotography mentioned above.

In 2011, the WI DNR working in consultation with FEMA is utilizing this surface elevation information to update the Flood Insurance Rate Maps (FIRM). The resulting FIRM boundaries

will be a significant improvement over the previous versions and will be available in GIS format for use with other map data layers.

The Vernon County Land & Water Conservation Department is also planning to have a consultant engineer update the PL566 Dam Breach Route boundaries utilizing the LiDAR based surface and contour data. This will also result in improved spatial accuracy of the depicted boundaries.

Project: Map Zoning Districts for Towns that have Farmland Preservation Zoning

Because the Land & Water Conservation Department has administrative responsibilities for the farmland preservation program now known as the Working Lands Initiative it will be important to maintain an accurate zoning map to assist with the administration of this program. There are currently 2 towns in Vernon County that have Exclusive Ag or “Farmland Preservation Zoning” districts; these are the Town of Coon and the Town of Harmony. Two other towns are in the process of getting their exclusive ag zoning approved for farmland preservation zoning by DATCP. After parcel mapping is completed in the Town of Coon as mentioned above, a GIS data layer depicting parcel level zoning will be developed for the Town of Coon. As PLS remonumentation and parcel mapping in other areas of the county is completed, and as other towns may adopt farmland preservation and other zoning districts, these areas will also be added to the parcel level zoning data layer. The Town of Harmony would logically be the next area of priority, but significant PLS remonumentation work may need to be completed first.

Project: Establish and Maintain Centralized & Versioned SQL Geodatabase(s) for all County Maintained GIS Data

In 2008 Vernon County acquired a Workgroup License for ESRI’s ArcGIS Server at the Advance level of functionality. As of the beginning of 2010 we are in the process of migrating existing GIS data into centrally stored SQL geodatabases formats which will be versioned for simultaneous editing by multiple users. Once set-up and established, internal data custodians will be trained to edit and maintain information that is stored in this enterprise GIS environment.

Project: Establish, Maintain, and/or Host GIS Based Mapping Websites for use by County Departments, State & Federal Agencies, and the General Public

With our ArcGIS Server software we also have the capability to produce interactive GIS based map websites. It is anticipated that several will be created to present needed information to consumers of land information over our county intranet as well as for public use via the internet.

We plan to establish several mapping websites that will only be used by internal county staff that will allow for editing and maintenance of selected GIS datasets via the end users internet browser software. By implementing these internal websites for certain data maintenance tasks, the county will reduce the potential number of new GIS software licenses that may need to be purchased as the number of County GIS users increases in the future.

For the public website(s) it is likely that we will contract with an outside vendor/consultant to accomplish this. Given current IT staff, hardware, and software resource limitations it will probably be more feasible to have a GIS based website for the public hosted offsite by a contracted vendor.

Project: Establish a Local GIS Users Group for Training & Support

As more map data is made available in digital format, it is crucial that the departments and other major users of the county's land information acquire the skills necessary to effectively make use of it. The LWCD-Land Information Office will facilitate a local GIS users group with the intent of increasing knowledge and skills related to the use of GIS data, software, and concepts.

2. Assistance Requested

a) Plan to Secure Technical Assistance

The LWCD-Land Information Office has an internet connection and subscribes to the WLIP Technical Assistance List Server Service. The Land Information Officer and GIS Technician will regularly attend WLIA Regional Meetings and the Annual Conference. The Land Information Officer and any Land Information Office Staff will maintain professional competency by self-training, and by attending training that would be required to perform or facilitate land record modernization as feasible. Other departments will be informed of, and encouraged to attend land information training or other educational events as appropriate to their departmental functions.

b) Plan to Finance the Costs to Continue Previous Investments in Land Records Modernization/Integration Made in Whole or in Part with Land Information Program Funding

Vernon County traditionally has developed and modernized land records primarily with WLIP funds and other non-property tax levied funding sources such as grants. The primary exception to this has been funding for the remonumentation of PLS corners. Since 1996, Vernon County has annually budgeted about \$25,000 for a PLS bounty program that subsidizes local surveyors for remonumenting these corners. During this next 5 year planning horizon it is likely that the County will continue to rely heavily on non-levied funding to maintain and expand internal land record systems. Vernon County requests that the WI DOA make it a policy and a priority to fully fund WLIP Base Budget Grants at the full \$50,000 level annually to ensure that there is a stable level of funding available to rural counties that do not receive adequate amounts to fund basic levels of land record system technologies and staff.

c) Strategy for Ensuring Access to County Land Information

Vernon County will implement and provide several types of access to land information that is maintained by the County. The primary implementation and access will be internet based through map and database applications. However, we will continue to develop and provide several standard hardcopy map and data outputs. We will also provide digital copies of GIS datasets in formats that are natively stored and used by county staff. Standard map and hardcopy outputs and existing GIS datasets will be provided for cost of reproduction (i.e. handling time & materials). Custom data development, processing, and analysis will be considered on a case by case basis and will be charged out at an appropriate hourly rate.

d) Plan to Participate in Statewide GIS Repository When Available

Vernon County will provide applicable data and participate in efforts to contribute to a statewide GIS repository as it develops. However, due to potential staff and funding limitations we may

require specific technical assistance (e.g. data transfer, consulting/training/guidance, etc...) from state and or other cooperating agencies to facilitate our efforts.

e) Plan to Maximize Resources By Utilizing Competitive Procurement Processes (bid, RFP and justified sole-source) Consistent With State of Wisconsin and Local Procurement Rules

For land record modernization purposes Vernon County intends to utilize competitive procurement processes consistent with Vernon County and State of Wisconsin procurement policy and rules. Vernon County will also continue to participate, when feasible, in cooperative consortium efforts such as the 2010 WROC projects to take advantage of cost savings related to volume discount and partnership factors.

D. Custodial Responsibilities

The following are Vernon County Departments that have custodial responsibilities for the indicated land records. Text within { } indicates whether we HAVE, would LIKE, or WILL accept custodianship of the data. The authority for custodianship is noted within (). An * indicates that the records are necessary for the operation of the office but are not specifically mandated by a governing body.

LWCD-Land Information Office & Treasurer (substituting for County Surveyor) –

- Maintains information on, and oversees the perpetuation of, PLSS corners including tie sheets and section summary sheets. {HAVE}(Wis. Statutes Ch. 59.45 & 59.74)
- Maintains files and an index of surveys performed within the County. {HAVE}(Wis. Statutes Ch. 59.45)

Dispatch –

- Maintains rural address (i.e. 911 address) data and digital maps. {HAVE}(Wis. Statutes Ch. 59.54)

Land Conservation –

- Files and maintains necessary natural resource maps and data. {HAVE}(*)
- Maintains County Forest maps. {HAVE}(Wis. Statutes Ch. 28.10 & 28.11)

Land Information –

- Creates, acquires, maintains, and/or coordinates the development of, digital GIS map layers for the County. {HAVE}(Wis. Statutes Ch. 59.72)

Highway –

- Compiles and maintains a record of the laying out, alteration or discontinuance of all highways in the county outside the limits of incorporated cities and villages. {HAVE}(Wis. Statutes Ch. 83.01)

Real Property Listing –

- Prepares and maintains accurate ownership and description information for all parcels of real property in the county. {HAVE}(Wis. Statutes Ch. 70.09)

Register of Deeds –

- Record deeds, mortgages, plat maps, certified survey maps, and other real property related documents. {HAVE}(Wis. Statutes Ch. 59.43)
- Maintains a grantor/grantee and tract index of real property. {HAVE}(Wis. Statutes Ch. 59.43)

Zoning & Sanitation –

- Maintains shoreland zoning maps. {HAVE}(Vernon County Code Ch. 50; Wis. Statutes Ch. 59.692)
- Maintains and files private sanitary system site plans, permits, and soil test reports. {HAVE}(Vernon County Code Ch. 70; Wis. Statutes Ch.145; Wis. Admin Code Comm 83 – 87)
- Maintains floodplain zoning maps. {HAVE}(Vernon County Code Ch. 26; Wis. Statutes Chs. 59.69 & 87.30)
- Files WiDNR wetlands and FEMA maps. {HAVE}(*)

Treasurer –

- Maintains property tax information for all tax parcels. {HAVE}(Wis. Statutes Ch. 59.25)

E. Framework Data/Foundational Elements, System Implementation & State-Wide Standards

1. Geographic Positioning Reference Frameworks

Applicable features:

a. Geodetic control network –

Vernon County's geodetic control network consists of approximately 57 monuments that were established by the Wi DOT in 2003-2004 as part of the Wisconsin Height Modernization Program effort, <http://www.sco.wisc.edu/surveying/hmp.php>

b. Public Land Survey System (PLSS) –

In Vernon County there are approximately 2,108 corners with U.S. PLSS Monument records on file out of an approximate total of 2,792 PLSS corners. This equates to roughly 75% that are remonumented. Of those on file, approximately 1,535 have coordinates, which equates to roughly 55% of the remonumented PLSS corners having coordinates. Vernon County is in the process of acquiring coordinates for all PLSS corners using a combination of GPS and conventional surveying techniques, as well as compiling recorded/filed survey information. In substitute of having a County Surveyor, the Vernon County Treasurer's Office and LWCD-Land Information Office maintain custodial responsibility for PLSS information within the county.

Adherence to standards where applicable.

- **Standards for Public Land Survey System Corners Corner Remonumentation. See Sec. 59.74 & 60.84 Wisc. Stats. and Wis. Admin. Code AE 7.08.**

Vernon County is adhering to the requirements of the Wisconsin Administrative Code A-E 7.08 and Wisconsin Statutes (Sec. 59.74 and 60.84) as applicable.

- **PLSS Database Definitions** <http://www.wlia.org/resources/standard7.pdf>

While Vernon County is not adhering to every detail of the physical model of this standard, we are significantly implementing the core components of the logical model for this standard in our parcel geodatabase.

- **National Standard for Spatial Data Accuracy, FGDC-STD-007.3-1998,** <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part3/chapter3>

When 90% to 95% of the total PLS Corners are remonumented and have county coordinates, Vernon County will conduct an NSSDA horizontal accuracy assessment for the PLS corner dataset. We anticipate that our PLS corner dataset will meet or exceed the ASPRS Accuracy Standard Class 1 horizontal limiting RMSE of 1.0 foot at a map scale of 1:1,200.

2. Orthoimagery and Georeferenced Image Base Data

Applicable features:

a. Photogrammetric base maps

Not being used at this time; in lieu of photogrammetric derived map features we will be making use of other sources for features that comprise our base mapping such as the breakline features from the LiDAR dataset being acquired in 2010 and the features in from our ongoing parcel mapping efforts.

b. Digital orthophotography (DOP)

Vernon County is participating in the 2010 WROC project and anticipates delivery of 12" resolution natural color orthoimagery in early 2011.

c. Digital raster graphics

Vernon County has downloaded the enhanced USGS Digital Raster Graphics (DRG's) from the WI DNR WebView site and have re-projected a set into the Vernon County Coordinate Reference System.

d. Satellite imagery

In the future Vernon County may evaluate satellite imagery technology as a potential tool for map updates, land classification, land cover mapping, or as an alternative to DOP's. At this time, there are no definite plans for acquiring any satellite imagery.

e. Oblique aerial imagery

At this time the county has no plan to acquire or use oblique aerial imagery. While it is recognized as a useful tool for a variety of applications, Vernon County has other priorities that it needs to fund and complete before it considers these types of imagery.

f. Historical aerial imagery

Have no immediate plans to acquire, but would be interested in obtaining and using these if they could be provided for minimal cost by a state or federal agency.

3. Elevation Data Product and Topographic Base Data

Applicable features:

a. Digital elevation models (DEM)

Vernon County does not plan to use DEM information.

b. Digital terrain models

We currently use a DTM that was developed for the purpose of orthorectifying the 1995 digital orthophotography acquired through Ayres. We do not have any detailed specifications on this DTM but believe it supports 20' foot contours.

c. Triangulated irregular networks (TIN)

The TIN that we use is based on the above DTM data.

d. Contours

We have derived 10', 20', and 100' contour lines from the above mentioned DTM and TIN. With acquisition of the LiDAR data stated below, we will be receiving 2' contour lines as one of the deliverables.

e. LIDAR data

Vernon County will be acquiring county wide LiDAR data that will meet FEMA Specs for 2' contour development in 2010.

f. IFSAR data

Vernon County has no plans to use or acquire IFSAR data.

4. Parcel Mapping

Applicable features:

- a. *The preparation of parcel property maps that refer boundaries to the public land survey system and are suitable for use by local governmental units for accurate land title boundary line or land survey line information.***

Vernon County intends to prepare parcel property maps that refer boundaries to the PLSS and will be suitable for use by local governmental units for accurate land title boundary line or land survey line determination. Vernon County parcel mapping is not intended to be a substitute for a certified land survey or for guaranteeing title to property.

- b. *The preparation of property maps that do not refer boundaries to the public land survey system but are suitable for use by local governmental units for planning purposes.***

Not applicable.

- c. *Coordinate system used***

WISCRS (Wisconsin Coordinate Reference Systems) – Vernon County.

d. Parcel ID

Each parcel polygon will be labeled with the computer number of its associated record in the tax assessment and tax collection databases. Eventually each parcel will also be tied to a parcel identification number conforming to the WLIP's parcel numbering standard.

Confirm your adherence to standards where applicable.

- **FGDC's Cadastral Standards**
<http://www.nationalcad.org/showdoclist.asp?doctype=1&navsrc=Standards>

While Vernon County is not adhering to every detail of this content standard, we are significantly implementing core components pertaining to the PLSS, Record Boundary, and Survey Systems in our parcel geodatabase to an extent that will allow for the useful compilation of our parcel mapping into a larger more regional or state parcel data set that conforms to said content standard.

- **The WLIA's Parcel Geo-locator Standard**
<http://www.wlia.org/resources/geoparcel.pdf>

Vernon County has not complied with the parcel geo-locator standard to date. However because of the parcel geodatabase structure that is being implemented we have the capability to generate a parcel number that will comply with this standard when parcel mapping is complete across the county. This can be accomplished using an intersection process involving PLS, MCD, and parcel data layers; and then applying a concatenation process on several data fields to generate a resulting number conforming to the geo-locator standard.

- **Local Government standards compliance.**

Not applicable.

- **The WLIA's Digital Parcel Mapping Standard**
<http://www.wlia.org/resources/standard6.pdf>

The parcel mapping in Vernon County would technically be considered "Index Parcel Mapping" according to the WLIA's Digital Parcel Mapping Standard. However, Vernon County's parcel mapping is being built on a cadastral based legal PLSS framework; and many of the cadastral requirements are being met such as citing source documents and showing property description discrepancies and/or documenting parcel construction decisions. Furthermore, to eventually achieve a "Cadastral Parcel Mapping" status as defined by this standard, Vernon County will be implementing ArcGIS Survey Analyst during the planning horizon giving us the capability to report the required positional accuracy expressed as a "circle of uncertainty" for each legal monument record.

5. Parcel Administration and Assessment Information

Applicable features:

- a. 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.

b. Activities associated with modernizing the use of parcel level information once created from and in support of parcel maps, for example:

Parcel ID, Tax data, Site Address, Owner Name & Address, Description/current document pertaining to parcel, Document imaging, Real estate transactions, Easements and restrictions, including conservation easements, Tax exempt status, Zip codes (including +4), Assessment class, Public lands, Liens, Evidence of Title, etc....

Vernon County is currently using software from GCS of Onalaska, Wisconsin for parcel administration. The software consists of modules for tax assessment, tax payment, and document indexing/recording. They are used daily for data input and maintenance; as well as for creating various reports needed by the Real Property Lister, Treasurer, and Register of Deeds. These modules do allow for some functional integration between modules if all appropriate attributes are populated and maintained. For example, if a document number is listed on the tax assessment record a user can retrieve information about the document using a couple of mouse clicks without having to launch the document indexing/recording module. A parcel number can also be used to link data retrieval between each module. Vernon County is not populating parcel numbers in the document indexing database and therefore can not take advantage of this linking using parcel numbers. Also, most older documents listed on records in the assessment database do not have a document number listed in addition to the volume and page and therefore can not be linked in an integrated fashion. These documents have to be retrieved by entering their volume and page number while in the document indexing module. Vernon County also uses PaperClip32, from PaperClip Software, Inc. of Hackensack, NJ for managing real estate and related document images. The PaperClip application has limited integration with the GCS Document Indexing application by allowing for the retrieval of a document image with a keystroke combination if the document record is open.

Within the database tables associated with the tax assessment and tax collection programs, the following attributes are maintained: parcel ID's, tax payment information, owner names and addresses including the former owner and co-owners, a site/property address as applicable to the parcel, a brief legal description, the most recent documents pertaining to the parcel including easement documents, tax assessment codes and associated acreage for each code listed on the parcel, tax exempt status code indicating fed/state/county/or local exempt ownership.

Within the database tables associated with the document indexing program the following attributes are maintained: document number, document type, volume & page, recording date & time, recording & transfer fees charged and paid, grantors & grantees, property tract information (e.g. quarter-quarter, sec-town-range, subdivision plat), and any applicable related documents. The system also has the option to enter a parcel number and municipality associated with the document, but Vernon County is not utilizing this feature at this time.

A parcel or computer number and an alternate parcel number are maintained for each tax parcel record. The parcel/computer number can be used to link to other data that also contains these numbers. In our parcel mapping we enter the 12 digit parcel/computer number as an attribute for the parcel polygons so that an extracted tax parcel data file can be linked to the parcel map data. After parcel mapping is complete, the GIS data will be used to generate a parcel number that conforms to the standard parcel geo-locator number and this will likely be stored just with the GIS data unless our software vendor creates a data field for this number within the database structure.

Vernon County currently contracts with ADC, of Eau Claire, WI for the hosting of non-mapping based parcel and real estate document websites. Both websites provide basic parcel and document recording information for no charge to the user. Through the document recording website a user may purchase and print/download copies of documents using a credit card or through a subscription account. A regularly scheduled extraction of information from the internally stored tax assessment, tax collection, and document indexing databases is performed and transferred to an off-site hosting location for use with these websites. Copies of the documents from the PaperClip document imaging system are also uploaded to an offsite storage location daily for use with the document website.

While there is room for improving and increasing the integration of these systems in Vernon County, during the next five years it is not likely that Vernon County will procure or develop a more integrated system. The work needed to further populate and standardizing parcel data attributes will continue as time permits to allow for increasing integration and standardization in the future.

Confirm your adherence to standards where applicable.

See statements regarding adherence to standards in section **4. Parcel Mapping** above.

6. Street/Road Centerlines, Address Ranges and Address Points

Discuss applicable features:

a. Transportation network (streets, roads highways, railroads)

See the following for information about roads. The one rail line that runs through the county has been digitized from 2005 black and white digital orthophotography and is currently being stored as a shapefile. After delivery of the 2010 acquired digital orthophotography this rail line will be spatially updated as necessary and as time permits. It will likely be added to the parcel geodatabase. We have also digitized the established snowmobile trails within the county and are currently storing them in a shapefile. We plan to add them to a geodatabase and maintain the mapping annually as the local snowmobile clubs stake out their trails every fall.

b. Rights of way

These are being mapped in the parcel geodatabase and will be maintained as parcels are maintained. Information for town road right of ways comes from a variety of sources including the WI DOT's local roads (WISLR) database, land surveys, and deeds. Often this information is conflicting and most towns in the county have not maintained their town road records. Therefore most town roads are being mapped with a 66' wide right of way which may not be what was originally designated.

c. Centerlines

d. Address ranges

Vernon County's road centerlines were created as part of an E911 addressing project in 2006-2007 and are continuously being updated by the Land Information Office and Dispatch center staff. The centerlines were digitized using heads up digitizing from our spring 2005 black and white digital orthophotography. The centerlines are attributed with road name, type, municipal custodianship, emergency response areas to left and right, and address ranges for the left and

right side of the road that can be geocoded against. After delivery of the 2010 acquired digital orthophotography road centerlines will be spatially updated as necessary and as time permits. Centerlines are stored in a geodatabase format.

e. Site address database

f. Address point, structure and/or driveway

Site addresses are maintained as attributes in the tax assessment database and as points in a GIS geodatabase format. The real property lister utilizes the GIS address data to confirm and maintain property addresses when editing tax parcel data records. Two sets of address points are maintained in the geodatabase with duplicate address attributes so that they could be linked together if needed. One set of points consists of site access points and is placed at the location where the driveway connects to a public road. In concentrated residential areas (i.e. cities, villages, and subdivisions) they are placed on the residential lot near the street. A site access point has been placed for all addresses identified within the county. The other set of address points consist of a structure points placed at the location of the addressed structure as visible on the 2005 digital aerial photography or located by GPS coordinates. In the concentrated residential areas most addresses do not have a structure point unless the structure is located on a very large lot. Vernon County plans to add structure points to these areas to allow us to periodically perform an automated check and reconciliation of property addresses with parcels using GIS overlay functions.

g. Road names

Road names are maintained in the centerline attribute data table. Annotation has been created for roads to use with standardized map layouts. Additional annotation may be developed to accommodate the production of different scale maps.

h. Functional class

In the road centerline geodatabase road types (i.e. town, city/village, county road, state highway, US highway) are being maintained as an attribute. Vernon County may consider adding the WI DOT's functional classes (e.g. arterials, collectors, local roads) as an attribute to our road centerlines.

i. Places/Landmarks

Vernon County will be considering the need for developing a point data layer for places/landmarks and possibly assigning E911 addresses to them if appropriate and feasible.

j. Integration with the County's/City Master Street Address Guide (MSAG)

The site access data from the geodatabase can be exported into a tabular data file and then "bumped up" against the MSAG to check for and reconcile any address discrepancies. Vernon County plans to perform this check at least once a year.

k. Ability to support emergency planning, routing, response and mapping

l. Ability to support Wireless 911

Vernon County's road and address data is maintained using ESRI's ArcGIS in a geodatabase format. This information is exported into shapefiles and then imported into the County's

Computer Aided Dispatch (CAD) system for use in emergency response and routing. Our CAD system is Phase II Wireless E911 compliant. Our GIS data supports and can be used for emergency planning and mapping.

Confirm your adherence to standards where applicable.

- **Local government compliant.**

Not applicable.

- **US Postal Addressing Standards Publication 28**

Vernon County follows the US Postal Addressing Standards for GIS based address and road centerline attributes. The property addresses in the tax assessment database, for the most part, also follow this standard. When the address structure points are intersected with the parcel polygons using a GIS overlay process and a comparison is made to check and reconcile the property addresses in the tax assessment system, the property addresses that do not follow the US Postal Standard will be updated.

7. Hydrography, Hydrology and Wetlands Mapping

Discuss applicable features:

a. Hydrography

In 2011 Vernon County plans to acquire the most current WI DNR hydrography GIS data set and spatially update it using the digital orthophotography and LiDAR data acquired in 2010.

b. Watersheds

Vernon County has acquired and utilizes the 1:24K Watershed GIS data layer from the WI DNR. We will evaluate the need to update and improving the spatial accuracy of these watershed boundaries after delivery of the 2010 acquired LiDAR data and will consult with the WI DNR to accomplish any needed spatial updates to this data layer.

c. Hydrogeology

A pilot Karst study is currently underway in an area between Viroqua and Westby that may lead to additional inventory and analysis on a larger scale throughout the county. Further study will depend on grants or other funding that may be secured in the future. The 2010 LiDAR data will likely be used when conducting studies of Karst features in the county.

d. Impacts on the environment (e.g. groundwater contamination, storm water)

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

e. Wetlands mapping activities

The federal Natural Resources Conservation Service and the county Land & Water Conservation Department utilize DNR certified wetland maps from 1985 as a guide to advise landowners about land use in these sensitive areas. For USDA purposes, however, a formal investigation and certification process is done on a case-by-case basis for each affected landowner. We have acquired the WI DNR GIS based wetlands map data for Vernon County. We have not found this data to be very useful due to its apparent spatial inaccuracy. This data really needs to be re-created with a new field inventory, but Vernon County does not have the resources to undertake such an endeavor. We will continue to acquire the most accurate information available from other agencies as it becomes available and as needed.

Confirm your adherence to standards where applicable.

- **Wisc. DNR Wetlands Map (s. 23.32, Wis. Stats.)**

Not applicable to our internal county data development.

8. Soils Mapping, Land Cover and other Natural Resource Data

Discuss applicable features:

a. Soils mapping activities

Vernon County has acquired and uses the NRCS Soil Survey Geographic (SSURGO) Database. We plan to continue to acquire updates as they become available.

b. Land cover

Vernon County does not have any plans to develop a county-wide land cover data set during the planning horizon but does make use of various land cover data sets such as the FSA fields for site specific projects. We have acquired a copy in raster GIS format of the National Land Cover Database (NLCD 2001) for Vernon County derived from Landsat 7 imagery and produced by the Multi-Resolution Land Characteristics Consortium (MRLC). We also have acquired a copy in shapefile GIS format of the Original Vegetation Cover of Wisconsin from the WI DNR. We plan to acquire more detailed land cover data as it becomes available. More focus on the development of land cover data will likely occur during the next planning horizon and after Vernon County has completed parcel mapping and other higher priority GIS datasets.

c. Forests

The mapping of forest stands in a personal geodatabase format for Vernon County Forests has been completed and is being maintained by the Vernon County Forest Administrator. Updates to this information will continue to be made as needed when stand management and inventory activities are carried out. A long range goal would be to develop or acquire forest stand mapping in a GIS format for all public properties, including the County Parks, as well as all properties that are enrolled in the Managed Forest Law program within the county. Vernon County will likely work with local DNR forestry staff and other local foresters to develop stand mapping for these other properties. Both the 2010 acquired digital orthophotography and the LiDAR data will be invaluable in the development of this data layer.

d. Geology

At this time Vernon County does not have any specific plans to develop geology data with the exception of the Karst study mentioned below. We have acquired and will continue to acquire GIS data of geology from state and federal agencies as it becomes available. What we currently have is generalized and was produced from small scale base maps which are adequate for general planning activities but not necessarily for site specific use.

e. Hydrogeology

A pilot Karst study is currently underway in an area between Viroqua and Westby that may lead to additional inventory and analysis on a larger scale throughout the county depending. Further study will depend on grants or other funding that may be secured in the future. The 2010 LiDAR data will likely be used when conducting studies of Karst features in the county.

f. Non-metallic mining

GIS data has been developed for the non-metallic mining sites in the county in both AutoCAD and shapefile formats. Currently this data is stored in a mix between the two formats with the various sites maintained in separate GIS/CAD data files. Vernon County's plan over the next year or two will be to standardize the data structure and bring all of this information into a geodatabase feature class format.

g. Endangered resources

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

h. Impacts on the environment (e.g. air emissions; soil contaminants; coastal stability)

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

9. Land Use Mapping

Discuss applicable features:

a. Mapping of existing land use.

Vernon County has completed a county-wide existing land use GIS data layer. This was developed using FSA agricultural field data, the 2005 county black and white leaf-off digital orthophotography, 2008 NAIP color digital orthophotography, information from the tax assessment roll, and completed parcel mapping. Vernon County plans to update this data layer in 2011 after the spring 2010 acquired digital orthophotography is delivered. Vernon County plans to continue to update as new aerial imagery is obtained and as other resources (e.g. highway construction plans, farm plans, subdivision plats, etc...) indicate that a land use change has occurred.

b. Mapping of planned land use

Vernon County has no specific plans to develop mapping of planned land use at this time. As the county and local municipalities go through the update process for their comprehensive plans in a few of years, and as parcel mapping is completed in significant areas of the county, some mapping of planned land use will likely occur.

Confirm your adherence to standards where applicable.

- **Local government compliant**

A classification system modified from the WISCLAND classification system was implemented for developing the county-wide existing land use data layer.

10. Zoning Mapping

Discuss applicable features:

a. Zoning Districts

Vernon County does not have county zoning. The Land Information Office has created a shapfile of the zoning districts for one town that has enacted zoning. As parcel mapping is completed Vernon County will work with other towns within the county that have enacted zoning to map their zoning districts. This will occur first in towns where exclusive ag zoning has been implemented for landowner eligibility in the Working Lands Initiative (f.k.a. – the Farmland Preservation Program). Vernon County plans to incorporate these zoning data layers into the county parcel geodatabase.

b. Shorelands

Vernon County has developed a shoreland zoning data layer in shapefile format. This data layer was derived by buffering the 1:24K WI DNR Hydrography data layer 300 feet from the streams and shorelines to create shoreland zoning polygons. Because of the spatial inaccuracy of the 1:24K WI DNR Hydrography data layer, our shoreland zoning polygons can only be used as a general guide for enforcement. Vernon County plans to update the spatial accuracy of the hydrography after delivery of the 2010 acquired digital orthophotography and LiDAR data. From this update we will create a new and significantly more spatially accurate shoreland zoning map.

c. Floodplains and floodways

Vernon County has acquired and uses a shapefile of the FEMA Flood Insurance Rate Maps (FIRM) that were digitized by the Mississippi River Regional Planning Commission from paper base maps. There are many zone areas depicted on these FIRM maps that are very inaccurate. Vernon County is scheduled to receive the new digital FIRM map updates in late 2011 from the WI DNR Floodplain Management Program/FEMA. The map update process is supposed to utilize our 2010 acquired LiDAR data to improve the spatial accuracy of the zones depicted on the FIRM maps.

d. Environmental corridors

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

e. Burial sites

Vernon County has developed a shapefile of cemeteries in the county. This GIS data will be updated as needed.

f. Archeological sites

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

g. Historic/cultural sites

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

Confirm your adherence to standards where applicable.

- **Zoning Mapping Standards (local government compliant)**

No local standards have been defined.

- **DNR Floodplain Zoning NR 115/117**

?

11. Election and Administrative Boundary System

Discuss application features:

- a. Election (voting district) boundaries, precincts, wards, supervisory, voting places etc)**
- b. Legislative districts**

The Land Information Office will work with the County Clerk to digitize and automate new electoral boundaries after the 2010 Census using the WISE-LR 2010 application created by the LTSB and the UW-Applied Population Laboratory. After the redistricting project is complete voting district boundaries, wards, supervisory districts, voting places, and legislative districts will be developed and included in the parcel geodatabase. The spatial accuracy of these data layers will be updated when applicable as parcel mapping is completed across the county.

- c. Utility districts (.e.g. water, sanitary, electric, etc.)**

Vernon County has acquired GIS shapefiles for electric and natural gas service areas; and for power transmission lines from the Public Service Commission (PSC). However, it has been determined that the electric service areas are not spatially accurate. The natural gas service

area data is very general and does not provide any representation of service lines. If and when this information is available, Vernon County will attempt to acquire it. As parcel mapping is completed, Vernon County will provide copies of our parcel geodatabase or shapefiles to the public utilities present in Vernon County.

d. School districts

Vernon County has spatially updated a shapefile dataset of school district boundaries by going through the tax assessment roll and comparing the school district listed on each parcel with the map data obtained from a state agency. Significant changes were made to the original map data set. The plan will be to incorporate this school district data layer into the parcel geodatabase and spatially update the boundaries as parcel mapping is completed across the county.

e. Tax incremental financing districts

No specific plans to develop at this time. This will be easily developed after parcel mapping is completed in areas of the county where TIF districts are in place.

f. Agency administrative districts and Zip Codes

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

g. Census geographies:

h. Blocks

i. Block groups

j. Tracts

k. Designated places

l. Urban areas

Vernon County has acquired copies of the US Census Bureau GIS data for block and tract census geographies. We will continue to acquire and make use of this information following the completion of the 2010 Census. When it has been requested we have provided county GIS data for Minor Civil Divisions, roads, and address points to the US Census Bureau for spatial improvement of their Census geography data sets. Vernon County will continue to provide this information when requested by the Census Bureau as parcel mapping is completed and the spatial accuracy of these features is improved.

m. Traffic analysis zones

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

n. Civil division boundaries (Towns, City, Villages etc)

Minor Civil Divisions are a feature class within our parcel geodatabase and they will be spatially updated as parcel mapping is completed across the county.

o. Public Administered Lands, ie parks, forests etc

Vernon County has developed shapefiles for Wildcat State Park, the County Parks & Forests, the Upper Mississippi River Fish & Wildlife Refuge, the Corp of Engineers Blackhawk Park, and the Kickapoo Valley Reserve. As parcel mapping is completed in the vicinity of these public lands, the spatial accuracy of the boundaries will be updated and this information will be incorporated into the geodatabase for parcel mapping. As detail information about features (e.g. trails, boat landings, facilities, etc...) within these properties is developed and made available, Vernon County will acquire and incorporate it into our GIS as feasible.

p. Native American lands

Vernon County has acquired a GIS data layer for an area of Ho-Chunk lands within the Kickapoo Valley Reserve (KVR) from the KRV. This will be updated when, and if, needed.

q. County boundaries

The north, east, and south exterior county boundary is defined almost completely by survey based GPS coordinates. In 2011, the Vernon County Land Information Office will be working with GIS staff in neighboring counties to check and reconcile these boundaries. Vernon County's west boundary is also the state boundary and an indefinite boundary line following the Mississippi River. The Land Information Office will also work with Allamakee County, IA and Houston County, MN to reconcile the representation of our boundary with these two counties.

r. State outline

Vernon County will continue to acquire a GIS data layer of the state outline from a state agency as updated ones become available.

s. Lake districts

Not applicable.

Confirm your adherence to standards where applicable.

- **Local government compliant**

No local standards have been defined.

12. Critical Infrastructure and Facilities Management

Discuss applicable features:

a. Emergency service districts

Have developed and will update spatial accuracy as parcel mapping is completed across the county.

b. 911 call center service areas & center locations

The entire county is our E911 call center service area.

c. Fire/Police Districts

Have developed and will update spatial accuracy as parcel mapping is completed across the county.

d. Fire/Police Stations

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

e. Hospitals and healthcare facilities

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

f. Government facilities

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed. Mapping of these facilities will likely occur as parcel mapping is completed across the county and after we receive the 2010 digital orthophotography.

g. Utilities - not districts (e.g. gas, electric, sanitary, water, phone, telecommunications etc.)

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed. We have been told by one local utility that that due to homeland security regulations there is a restriction on the data that can be provided to us.

h. Parks & Recreational Trails (Ice Age/ bicycle/ hiking/ snowmobile/ horseback routing)

Have developed snowmobile trails, county park trails, and acquired trails (i.e. hiking, equestrian, biking) from the Kickapoo Valley Reserve. Plan to update and add to as more information is available and as time permits after higher priority data layers have been completed. We have also acquired preferred road bike route data for the county from the WI DOT.

i. Transit systems

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed. There are some efforts underway in the county to provide a variety of transportation services. These range from services for commuting to and from work, transportation to medical & dental appointments, and bus services for the public. As routes and schedules are developed, these types of transportation services could be mapped and included in the County's GIS system.

j. Bridges, culverts, traffic road signs

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

k. Airports and airfields

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

l. Harbors

Not applicable. We do have one Army Corp of Engineers lock and dam that will be mapped near Genoa.

m. Boat landings

Will acquire and/or develop as needed after other priority data sets are completed and after the 2010 digital orthophotography is delivered.

n. Hazardous materials sites; LUST(Leaking Underground Storage Tank) etc.

No specific plans to develop at this time. Will acquire and/or develop as needed after other priority data sets are completed.

o. Landfills

We plan to map the county landfill in 2010-2011 as parcel mapping in this area is completed.

13. Database Design and System Implementation

Discuss applicable features:

- a. Design evaluation***
- b. Project approach***
- c. Timeline***
- d. Metadata policies***
- e. Security/Privacy policies***
- f. Implementation and maintenance strategy***
- g. Data quality management***
- h. Needs assessment***
- i. Data structure and format (e.g. topology)***
- j. GIS data models (database & workflows)***
- k. Data dictionary***
- l. Coding schema***
- m. Transaction management***
- n. Organizational information flows***
- o. Data Conversion***
- p. Ability to integrate with other databases and information systems (vertical and horizontal)***

Vernon County is implementing MS Sequel Server for our ArcGIS Server (SQL Express) and GCS software installations. We utilize industry standard network/operating system security for these data systems.

Vernon County has begun to implement an ESRI ArcGIS versioned geodatabase for development and maintenance of parcel and related data. For this data, we are implementing the core structure of the ESRI/Von Meyer/FGDC parcel data model. During the next 5 years, much of Vernon County's GIS development focus will be on further development of parcel data. Our plan is to also work on moving most of our major GIS data layers that are primarily in shapefile format into a versioned geodatabase structure. Vernon County has limited GIS and IT staff resources to perform GIS development and system design work. Most time is devoted to working on base data development and other project needs. As we transfer data into the geodatabase format, we will evaluate existing industry and agency data models and implement database structures that allow us to serve our internal business needs while also providing for efficient data sharing with other agencies.

We will continue to standardize and improve the data maintained within the tax assessment system and will continue to extract data from that system to link to our parcel map data.

Metadata is being developed but it is often neglected due to other priorities and responsibilities. As our system matures metadata will need to become part of the standard workflow for all staff working on GIS data development and maintenance.

Confirm your adherence to standards where applicable.

- GIS Data Exchange Between Wisconsin Public Agencies, WLIA, 1996
<http://www.wlia.org/resources/standard5.pdf>

County Comment: This referenced standard is outdated and probably is not needed in the plan instructions given the technology options available today.

Vernon County is able to exchange GIS data in a variety of common electronic media formats and methods including ftp, email, DVD, CD-ROM, and USB.

F. Public Access

Discuss applicable features:

- a. Use of technology to facilitate efficient access (e.g. Internet, query systems, DVD/CD).***
- b. Use of 3rd party technology for access (e.g., GIO Repository, Google, offsite hosting,)***
- c. Data sharing policies (copyright, licensing, fees etc).***
- d. Open access to data in existing format.***
- e. Subscription-based or public-facing web services.***
- f. Optional production of customized data on cost-recovery or other basis.***
- g. Internet accessibility (ADA compliance, security)***
- h. System security.***
- i. Privacy policies.***
- j. Use of \$2 fee designated for land information and housing data Sec. 59.72 (5)(b)3.***

Vernon County has established several avenues for distribution and use of the county's land information by the public. These include the production of hardcopy maps and printouts; publishing of ESRI ArcReader data packages; distribution of ESRI shapefiles, personal, and file geodatabases; exports of tabular tax assessment data; exports of static map image files in formats such as .pdf or .tif; and both public access and on-line web based applications for

parcel, property tax assessment & collection, document recording, and document imaging information lookup. Data in the listed digital formats is often distributed via an ftp transfer or it is burned to DVD/CD's. We also plan to participate and provide our GIS based data as feasible to GIO Repository services supporting parcel data, emergency response, and PLS efforts.

Vernon County's land information use and distribution policies basically follow Wisconsin Open Records Law. Information that is considered open to the public is available to requestors in either natively maintained or readily creatable formats. Any data that we use or maintain that is considered private under Wisconsin Open Records Law and/or other state or federal laws or policies is not distributed. We have not copyrighted or licensed any data sets and do not plan to do so. Fees have been established to cover time and materials necessary to distribute most of the land information we maintain; and to provide customized GIS data and maps based on an hourly rate. The recorded documents that are available on-line follow statutorily set fees, and we do have the option to provide a subscription based service for these as well.

We have two public access computers in the Register of Deeds Office and if needed public users are given assistance in using the parcel, property tax assessment & collection, document recording, and document imaging data systems. Our on-line public access applications are as follows:

Non Map Based Sites:

- Tax & Assessment Information, <http://vernonwi.mapping-online.com/VernonCoWi/>
- Register of Deeds Recorded Documents, <http://vernonwi.roddirect.com/Default.aspx>
- County Surveyor Files, <http://www.vernoncounty.org/GIS/index.htm>

GIS/Map Based Sites:

<Insert web address when completed>

Applied Data Consultant's (ADC) of Eau Claire Wisconsin hosts the on-line tax & assessment, and the recorded documents data systems. The county surveyor files and the GIS mapping web site are hosted by Vernon County.

Industry standard computer network and internet security measures and firewalls are utilized by both ADC and Vernon County for these systems. The public access systems in the Register of Deeds Office have public log in accounts that only allow view/read only access to data and network resources.

In the near term our plan for using the earmarked \$2 dollar public access portion of the recording fee is first to fund the outsourced hosting of our on-line tax & assessment, and the recorded documents data systems; and second to fund the conversion of microfilmed documents to document images for use in the above describe public access systems.

The long term plan for these systems will be to pursue improved integration as time and financial resources make it feasible. We also anticipate that they will become more integrated and user friendly as GIS and information technologies advance.

Confirm your adherence to standards where applicable.

- GIS Data Exchange Between Wisconsin Public Agencies, WLIA, 1996
<http://www.wlia.org/resources/standard5.pdf>

County Comment: This referenced standard is outdated and probably is not needed in the plan instructions given the technology options available today.

Vernon County is able to exchange GIS data in a variety of common electronic media formats and methods including ftp, email, DVD, CD-ROM, and USB.

- State Open Records Law and federal Freedom of Information Act

Vernon County's intent is to fully comply with State Open Records Law and the Federal Freedom of Information Act.

G. Integration and Cooperation

Wisconsin Administrative Code, Chapter Adm. 47 defines *integration* as the coordination of land records modernization to ensure that land information can be shared, distributed and used within and between government at all levels, the private sector and citizens. *Cooperation* is defined as the explicit relationships within and between public agencies, and between public entities and private entities to share land information or collaboratively pursue land records modernization. These cooperative relationships may be formal or informal, a single instance of exchange or an ongoing association.

Please describe the following:

- a. Formal data sharing agreements (memorandums of understanding, etc.)***
- b. Formal or informal data maintenance agreements between departments/agencies.***
- c. Cooperative arrangements (e.g. agencies; libraries; schools; RPCs; utilities; privates).***
- d. Consortia (e.g. inter-county, regional).***
- e. Collaborative arrangements (e.g. sharing of: local/state staff and budgets; technical assistance; peer review; collegial plan preparation; common help desk; bartering and mentoring etc.)***
- f. Statutory relationships among counties and state agencies.***

Vernon County has not entered into any formal data sharing or memorandums of understanding to date in regards to land information. Given our policy of following Wisconsin Open Records Law for providing and distributing our land information, there is little incentive for other organizations to enter into these types of arrangements because they can get county data without providing anything in return if they so choose to do so. If and when opportunities arise to enter into such agreements, Vernon County will consider them at that time.

Vernon County's most relevant examples of integration and cooperation are participation in all of the digital orthophotography consortiums that have occurred in Wisconsin since 1995, sharing and exchanging GIS data with the Kickapoo Reserve, and providing a multitude of maps and GIS data to local units of government for comprehensive planning. We also have excellent working relationships with WIS-DOT-5 and the Mississippi River Regional Planning Commission. VernonTel the local telephone cooperative has provided significant assistance with hardware and software set-up for the county's E911 system and has cooperated with

address data development and reconciliation activities as well. We have provided and received GIS data from neighboring counties and will continue to do so.

Internal departmental GIS use is growing and the Land Information Office works with several county departments to facilitate and support GIS use and land information development within the county. In addition to the Land Information Office, the primary departments in Vernon County that are expanding the use of GIS and land information include the Land & Water Conservation Department, the Treasurer/Real Property Lister, the Sheriff's Department, Zoning, and the Computer Department. Some specific examples include collaborating on the maintenance of property address, municipal boundary, and related emergency response data; assistance with map production for shoreland zoning & floodplain review, parcel mapping/maintenance, document imaging, and software update/maintenance. As parcel mapping and other data is completed and as various GIS web sites are implemented, efforts will be made to expand GIS/land information use into other departments.

1. What integrative/cooperative relationships would your county like to develop?

Any and all that would be mutually beneficial, reduce overall costs, and result in more accurate information.

2. What potential partners and mutual projects does your county plan to pursue?

Any and all that would be mutually beneficial, reduce overall costs, and result in more accurate information.

3. What data would be shared and used in both of the above?

Any and all that would be mutually beneficial, reduce overall costs, and result in more accurate information.

4. How does your county allow for participation and coordinate funding allocations so that all departments benefit from the land information program?

Vernon County's Land Information Council has broad representation of primary users of GIS and land information. Given the limited WLIP funding we take in, we can not cover all of the potential needs for data and application development. By applying our limited WLIP funding to core data and information development, we are creating base information that can be used by the broadest range of departments within the county.

5. How does your county allow for participation so that municipalities and other agencies in the region benefit from the land information program?

While representatives of local municipalities and other agencies are not members of the Land Information Council, the committee is always open to hearing requests and input from these entities. Further, our open data sharing policies provide a significant potential for these entities to benefit from our land record modernization efforts. This past year we have provided large format base maps to all local town governments and fire departments at no charge. We have provided maps and data for comprehensive planning. Further, all public GIS data that we maintain will be provided through our GIS based mapping website including the new 2010 digital orthophotography and 2' contours being acquired through the WROC Consortium described previously. Vernon County's intent is to continue to provide these types of land information and

support to local municipalities and agencies as our staff and financial resources allow us to do so.

H. Communication, Education, Training and Facilitated Technical Assistance

Discuss applicable features:

- a. Documentation of county data, models and processes.***
- b. Resources available.***
- c. Identification of customer needs.***
- d. Coordination of education/training with agencies, associations and educational institutions.***
- e. Use of technology to facilitate education and training.***
- f. Use of, or plan to participate in, clearinghouse/repository and land information technical assistance listserv.***
- g. Use of land information officer education and training funds.***

Confirm your adherence to standards where applicable.

- No standards have been adopted; however, county membership in the land info technical assistance email listserv (DOA-Landinfo@lists.wi.gov) is required in order to participate in the WLIP.

Several Vernon County staff members participate in the land info technical assistance email listserv and the Land Information Officer regularly attends Wisconsin Land Information Association (WLIA) and Land Information Officer Network (LION) meetings and plans to continue to do so. Vernon County staff members also take advantage of several free and low cost training events each year such as seminars put on by ESRI. The Land Information Office makes use of GIS technical support and on-line resources available from ESRI and other forums. While the \$300 annual WLIP Training & Education Grant helps to send one individual to the WLIA Conference, it really does not help to cover any significant GIS training expenses. It would be helpful if this grant could be increased significantly so that either additional Vernon County representatives could attend WLIA meetings or more substantial training activities could be pursued.

Over the next several years the Land Information Office intends to start a county GIS users group, provide training in ArcGIS and use of GIS based mapping websites, and to facilitate expanded GIS/land information use in other departments.

Vernon County's Land Information Officer has been an active participant in parcel data sharing for the Wisconsin GIO's repository development efforts and plans to continue to do so as the repository evolves and matures.

I. Administrative Standards Not Associated With Foundational Elements

This Plan represents an agreement between the county and the Wisconsin Department of Administration (DOA). This agreement is intended to effectuate the objectives of the Program as embodied in the enabling legislation. In order for a plan to be acceptable to the DOA, the DOA and the county agree and consent as follows below. If applicable, discuss any plans, problems, issues, or concerns relative to these agreements.

1. Vernon County agrees to observe and follow the statutes relating to the Wisconsin Land Information Program and other relevant statutes.
2. Vernon County agrees to permit the Wisconsin Department of Administration access to books, records and projects for inspection and audit.
3. Vernon County agrees to complete the GIS Inventory Survey (survey required annually by WLIP).
4. Vernon County agrees to update the plan every 5 years and in the interim if the plan should change.
5. Development and implementation of an acceptable plan confers certain benefits on local government within a county, including continued eligibility for Program funding. A peer review process will be used to assess plan acceptability by the land information community.

Special Note:

Vernon County would like the WI Department of Administration to reduce the amount of “land information money” being allocated to comprehensive planning grants and increase the amount of WLIP base budget funding and other WLIP grants for land record modernization by counties and local governments. By doing so, we believe that more land information development will occur in rural counties like ours. With higher quality and more land information, the costs of future comprehensive planning should be kept reasonable. When some of the land information program funds were re-allocated to cover comprehensive planning grants, one of the arguments used to justify this re-allocation was that by funding planning, many land information GIS data sets would be created and provided back to local units of government. However, under this funding system many consulting companies were paid well to develop comprehensive plans with funds that originally were intended to support land record modernization efforts, yet very few high quality GIS data sets were developed during these planning efforts. Instead consultants used existing land information datasets through public record requests to provide and meet the bare minimum mapping requirements for comprehensive planning. For future rounds of comprehensive planning, put the “horse back in front of the cart” and make sure that land information and GIS development is a priority and receives adequate funding to support good analysis, information dissemination, and mapping for local government planning efforts.