

**DUNN COUNTY
LAND INFORMATION MODERNIZATION PLAN
2011-2015**

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I.

EXECUTIVE SUMMARY

The purpose of this document is to update Dunn County's Land Records Modernization Plan as required by the Wisconsin Land Information Program as administered through the Wisconsin Department of Administration's (DOA) Division of Intergovernmental Relations. The format and content of this Plan is based upon the 'Uniform Instructions for Preparing County Land Information Plans' dated December 2009. Dunn County has completed the majority of foundational elements as defined by the plan so the focus of this report will be on ongoing activities and new initiatives. Dunn County has a centralized Information Technology program developed and maintained by the Department of Administration - Information Technology Division. Land Information in Dunn County is not differentiated from any other type of informational systems in the County in terms of IT management, policies, process, and procedures and is planned, managed, and maintained like all other information and data based services and systems. The Information Technology Division provides "State of the Art" software and hardware technology and maintains advanced Information Technology (IT) systems based on industry "Best Practices and Standards". The reason for this approach has been to provide IT systems that are easy to manage and maintain and provide short and long term cost savings by reducing the high cost of maintaining the IT infrastructure. For a complete explanation of Dunn County's IT initiatives refer to the most current IT plan at the following link [IT Division](#). This plan will summarize initiatives related to land information from the County's overall Information Technology program as well as other specific information required by the Wisconsin Department of Administration.

Web Site

Dunn County Main Web Site www.co.dunn.wi.us
Dunn County GIS [Land Information Web Portal](#)

Contact Person/Person Completing Report

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Strategic Planning Process

Dunn County uses Information Technology Infrastructure Library (ITIL) strategic planning methods to plan for and implement enterprise and departmental initiatives that meet the strategic vision, plans, goals and objectives of the County. The ITIL's strategic planning process is based on the following main objectives:

- Produce a strategic vision for the future of the organization with weighted input from all appropriate drivers in the organization defined in terms of their function, roles, and responsibilities.
- Develop business goals and objectives based upon the strategic vision of the organization.
- Develop plans for achieving the business goals and objectives.

The four key tasks for carrying out the ITIL's strategic planning and management process are:

- Review the history and current position of the organization.
- Define and develop the required or desired state of the organization.
- Develop short term and long term goals, objectives, and implementation plans to migrate to the desired state of the organization.
- Review and evaluate the progress of achieving the desired state of the organization.

The ITIL's key message to strategic planning and management is that the secret to successful implementation of a strategy is to plan small measurable steps with regular deliverables, milestones, and reviews.

The chart list planning participates and roles in the strategic planning process:

Activity	CB	COA	EC	CM	IT	DEPT	VEN	EU
Conduct strategic planning	✓	✓	✓	✓	✓	✓		
Review long term goals		✓	✓	✓	✓	✓		
Review short term goals				✓	✓	✓		✓
Approve budget requests	✓	✓	✓					
New technology requests						✓		
Maintenance upgrades					✓		✓	
Problem resolution requests						✓		✓
Infrastructure upgrades					✓		✓	

- CB:** County Board
COA: Committee on Administration
EC: Executive Committee/Land Information Council
CM: Administrative Coordinator
DPT: Departments
IT: Information Technology Division
VEN: Vendors
EU: End-users
II.

LAND INFORMATION PLAN

A. GOALS AND OBJECTIVES

The central mission of the County of Dunn information technology program is to develop, implement, and maintain completely automated information technology system using technological and informational standards which are cost effective, centralized, and accurate. Informational Technology services provide sharing of resources and reduction in duplication throughout the county and provide easy access to all information including land related. Specific land related objectives that are being carried out as part of this mission are:

- Continued planning and development of an enterprise geographic and land information systems based on policies, standards, and best practices.
- Continued development of the Land Information Office Unit of the Department of Administration's Information Technology (IT) Division to provide maintenance of the county's digital base layers, parcel layer, GIS & cartography services, and project management.
- Continued development of an automated addressing system that unifies addressing information throughout the county's informational systems and provides automated address layers for the County's GIS system.
- Development of a program for the acquisition of land information base data such as orthophotography, LIDAR, etc. on a regular basis for Dunn County and establishing a cooperative agreement between willing regional local governments with the county for the funding and sharing of data.
- Continue conversion of land information documents into document management and imaging systems throughout the county.
- Continue remonumentation and maintenance of the Public Land Survey System and acquisition of horizontal and vertical geodetic control for the county.
- Continue development of cooperative agreements with local, state, and federal government and the private sector for the sharing and exchange of land information data and services.

1. Data and Informational Needs

Dunn County has developed and completed the majority of its Foundational Elements and supporting Information Technology systems which the county needs to provide services internally to County Departments and externally to other government agencies, private industry, and the public. Dunn County currently does not have any information it needs from other governmental agencies. Dunn County would like to participate with the Department of Revenue and several of its vendors to integrate the DOR Electronic Real Estate Transfer Return into the County's Assessment, Billing & Collections, and Real Property Document recording and Imaging systems.

2. Geo Reference and Standard Industry Formats

Dunn County provides data through a web portal, web based map and data services, and datasets available on DVD. All data produced are provided to internal and external customers built on a universal (WGS 84) datum using industry and organizational standards such as:

- ESRI shape file, personal & flat geo database formats
- ESRI ArcSDE Enterprise for internal storage
- ArcGIS web based map and data services
- AutoCad .dwg format
- MrSID .sid format
- WLIA and FGDC standards where appropriate
- Universal (WGS 84) datum

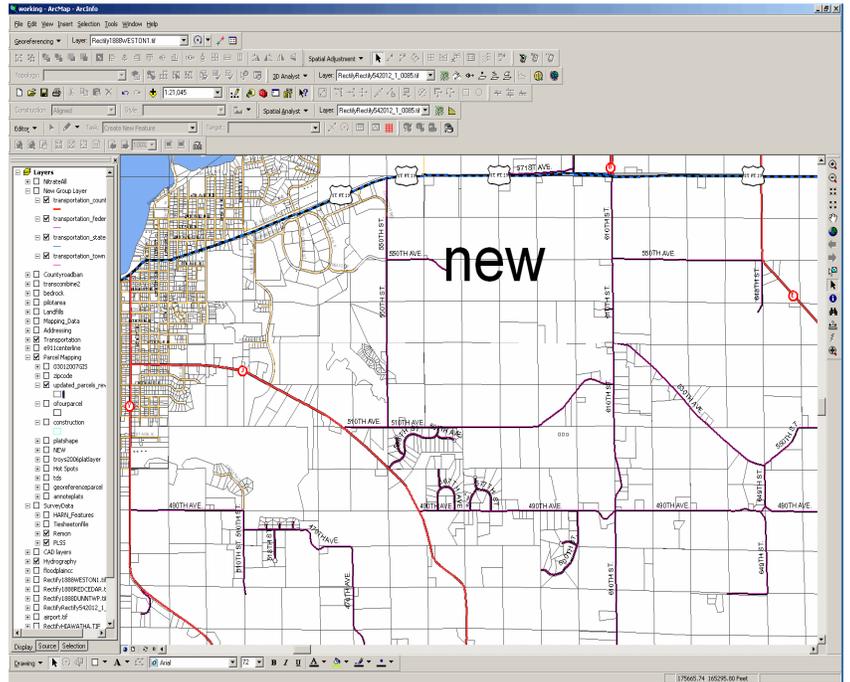
3. Continued Maintenance of Electronic Land Information

As with all information and the technology that supports it new needs arise and existing systems and data must be maintained. Dunn County stays abreast of new technology, industry best practices and standards, attends appropriate training, and collaborates with both other government and private partners to maintain, enhance, and develop new systems to meet the needs of its internal and external customers. All of Dunn County's land information systems and data are maintained in-house are edited daily to maintain accurate and up to date information. In addition, all the County's software and hardware systems that make up its Information Technology infrastructure are under maintenance and support agreements. Dunn County ensures the currency and continued maintenance of its land information and Information Technology infrastructure as indicated above by maintaining its data in-house and updating the data daily and by providing a 2011 Information Technology Operational, IT Capital Projects, and Land Information budget of \$3,700,003.00 to maintain and develop new Information Technology systems. The WLIP's assistance through retain fees, base budget grant, and LIO training grant provide revenue to assist in the Information Technology cost associated with implementing initiatives contain in this plan.

B. PROGRESS REPORT ON ONGOING ACTIVITIES

1. Digital Base Layers

In 1999, Dunn County contracted for the development of digital base layers including a rural parcel layer. This layer serves as the foundation of our GIS parcel database. In 2004, Dunn County contracted to complete the County's parcel layer by adding all urban areas. The project was funded by the WLIP 2002 Strategic Initiative Grant for completing parcel mapping. Since March of 2006 the digital base layers have



been edited, maintained and updated, in house. Currently, Dunn County has a complete representation parcel layer as defined by the WLIA Parcel Standard with approximately 50% of the parcels derived by coordinate geometry and tied to geodetic control. The line work is not recommended for surveying, boundary location, and/or engineering purposes. Dunn County is in the planning phase of developing a cadastral parcel mapping as defined by the WLIA Parcel Standard. Dunn County uses a unique computer number identifier for each parcel. Once the parcel data is migrated to the new tax system (ACS) a state defined unique PIN number will be implemented. Dunn County uses the Wisconsin County Coordinate System. (WISCRS) based on the universal datum of WGS 84.

2. Land Information Management System

Dunn County has expended a large amount of time and money developing its assessment and tax system into a land information management system that provides the source information for the County's Geographic Information System (GIS). The system is the largest and most up-to-date source of land records information in the County. Dunn County participated with Eau Claire County in its RFP process for replacement of the mainframe system with a modern client/server and relational database based system. ACS, Inc. was selected as the

vendor, and contingency funds were requested and approved in 2006 to purchase the software. Funds were budgeted for 2007 for implementation services and training. The ACS system will allow Dunn County to migrate all of the functionality of its current mainframe system to the new

The screenshot shows the 'PROPERTY1: Property' application window. The top menu bar includes File, Edit, View, Data, Tools, Links, Exports, Imports, ECC Reports, Reports, Window, Help, and Debug. Below the menu is a toolbar with various icons. The main form contains several fields and sections:

- Year / PIN:** 2011, 17004-2-261303-440-0002
- Municipal Code:** 004 Town of Dunn
- Land:** 39,800
- Alternate Number:** 004-1069-05-000
- UTA Code:** 3444 MENOMONIE SCHOOL
- Improvement:** 41,000
- Historical Map ID:** 261303.40401
- Lottery Credit:** (empty)
- Total:** 80,800
- Deeded Name:** ERIC T & MICHELLE E EDGEBERG
- Status:** Active
- Mortgage Escrow:** (empty)
- Change User:** (empty)
- Acres:** 18.810
- Change Date:** 9/9/2009
- New Account:** Pending, State Assessed, Exempt (checkboxes)
- Create Date:** 11/13/2010 11:59:00 PM
- Physical Address:** N 2112 COUNTY RD C Menomonie WI 54751

Below the form is a tabbed interface with the following tabs: Permits, Physical Address, Related Properties, Snapshots, Tax Districts, Tree - Attachments, Workflow, Personal Property, Result Set, Assessed Values, Attachments, Characteristics, Comments, Documents, History, Names, Parcel Legal. The 'Assessed Values' tab is active, showing a table of values:

* Land Class Code	Acres	* Assessed Land Value	* Assessed Improvement Value	Change User	Change Date
G1 Residential	1.000	10,000	41,000		8/29/2006
G5 Undeveloped	7.810	7,800	0		8/29/2006
G6 Productive Forest Land	10.000	22,000	0		8/29/2006

The status bar at the bottom shows 'Ready', 'V USER1', 'Wednesday, April 06, 2011 11:59:00 PM', and '4/10 (0M)'.

system. In addition, the new system has the ability to directly integrate with the GIS system. The Wisconsin version of the product has been installed in a test environment and is operational in Dunn County. Information Technology, Assessment, Treasurer, and Eau Claire County staff have participated in both introductory and advanced training on the configuration, administration, customization, and maintenance of the system. After three years of development the Assessment Office and Billing and Collection portion of the ACS system went into production in Eau Claire County in 2010. Dunn County is planning on going live with Assessment Office on May 6, 2011 and Billing and Collection Office on June 1, 2011. Eau Claire County is developing the Land Development Office portion of the system and Eau Claire and Dunn County are planning going live with the Land Development portion in the 3 or 4 quarter of 2011.

3. Digital Ortho Photography/LIDAR Project

Height modernization was a key area that needed to be completed to have an effective GIS system in Dunn County. The uses for height modernization are many, and currently Federal Emergency Management Agency (FEMA) and the Wisconsin DNR are updating all floodplain maps in the state. Dunn County was scheduled to be updated this year using old data that will produce the same floodplain maps the County has now. However, after discussions with the DNR, they were willing to wait if the County was collecting new data that would improve the floodplain maps for Dunn County. Dunn County's sole source of county wide elevations was a Digital Elevation Model (DEM) that was produced as a result of the USGS Orthophoto of Dunn County in 1992. The DEM is accurate to 20-30 feet and 10 foot contours can be generated from it. However, to carry out floodplain mapping and other activities, accuracies of 1-3 foot with 2-foot contours and break lines are required. During the PSC grant second appeal process \$300,000 was requested for contour mapping using LIDAR technology at 100% reimbursement and as mentioned earlier funded at 50%. LIDAR, which stands for Light Detection and Ranging, is the process of scanning the earth with lasers to obtain accurate elevations and is similar to sonar where time of travel is used to measure distance. LIDAR is generally accurate to within a foot (8 inches) and supports development of 2-foot contours that meet national map accuracy standards and FEMA requirements. In 2007, Dunn County contracted for and received delivery of 6" color orthophotography and LiDAR for the county. The project utilized 30 high accuracy reference network (HARN) ground control points for both horizontal and vertical control. Ground truthing verified that the accuracy satisfies FEMA standards. The orthophoto/LiDAR is projected in Dunn County Coordinates. A 3D terrain dataset was also created for spatial analysis. This LiDAR dataset was used to create a 10 foot and 2 foot contour layer, County wide. These layers are served out to the public on the County GIS website. The LiDAR data continues to be a workhorse for many fundamental County GIS tasks. The LiDAR data was the basis for a digital FEMA floodplain study and boundary revision for the entire County. These results will be available in year 2011.



4. E911 Wireless Phase 1 and Phase 2 Implementation

Dunn County received PSC grant funds to upgrade the County's E911 Computer Aided Dispatch system and develop and implement automated mapping to the system. A new contract was negotiated with the current CAD vendor VisionAir, Inc. to upgrade the Computer Aided Dispatching software for E911. In addition, an integrated mapping solution, GeoComm's GeoLynx software, was purchased through VisionAir as part of the agreement. The entire County transportation layer was reconfigured and attributed so that it could support E911 Phase I & II mapping requirements of the GeoLynx software and individual response areas dispatch zones database requirement for CAD. The resulting layer and associated feature class provided Dunn County an accurate and routable transportation layer for an array of multi-jurisdictional tasks.

Call Number	Call Location	Dispatch Zone	Status
0700001	DAILY PAGER TEST	POL-SHE	DU
0700002	DAILY PAGER TEST	POL-SHE	DU
0700003	DAILY PAGER TEST	POL-SHE	DU

Unit	Unit Type	Department	Call Number	Ten Status	Special Type	User Status	Call Location
E911	Police	USR-4	X	IN	U	C	
Fire	Fire	USR-4	X	IN	U	C	
Police	Police	USR-4	X	IN	U	C	

5. Dunn County Highway Road Traffic Analysis

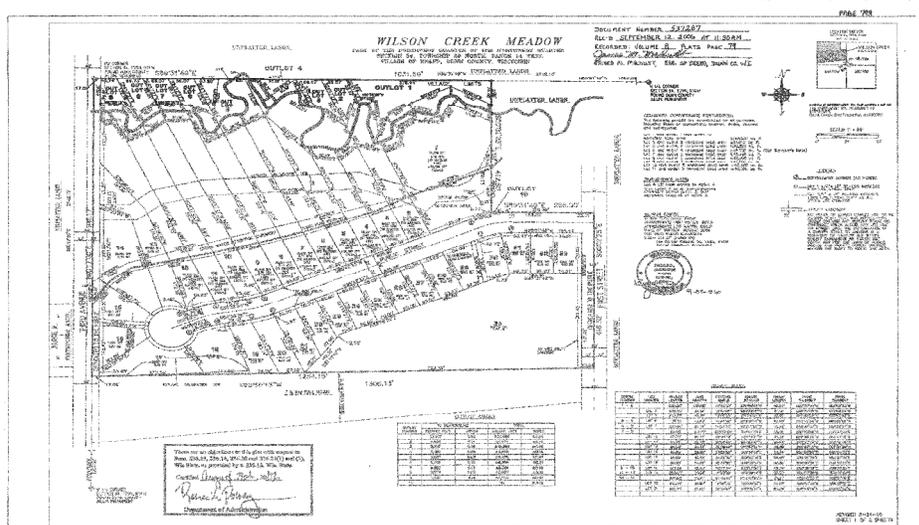
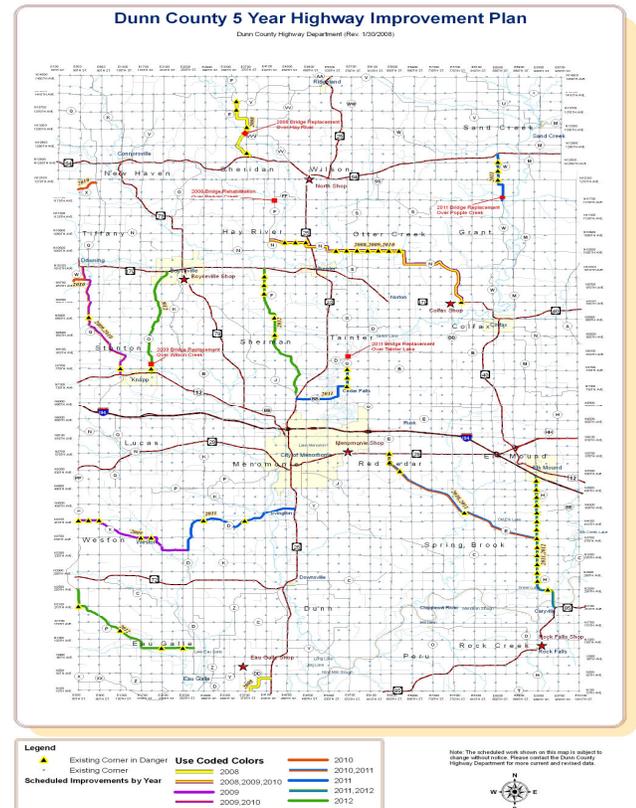
The GIS transportation layer was modified for the Highway Department to provide attributes, classes, and route segments to assist Highway Engineering staff in their 5 year Highway improvement planning.

6. Recorded Document Management System

In 1988, Dunn County implemented a document management system for the Register of Deeds Office on the county's mainframe system. The software provided for recording of key document information including Grantor/Grantee but did not provide tract indexing or document imaging.

In 2000, Dunn County implemented DocuTrack and DocuFee document management system which provided document information, tract indexing, and document imaging.

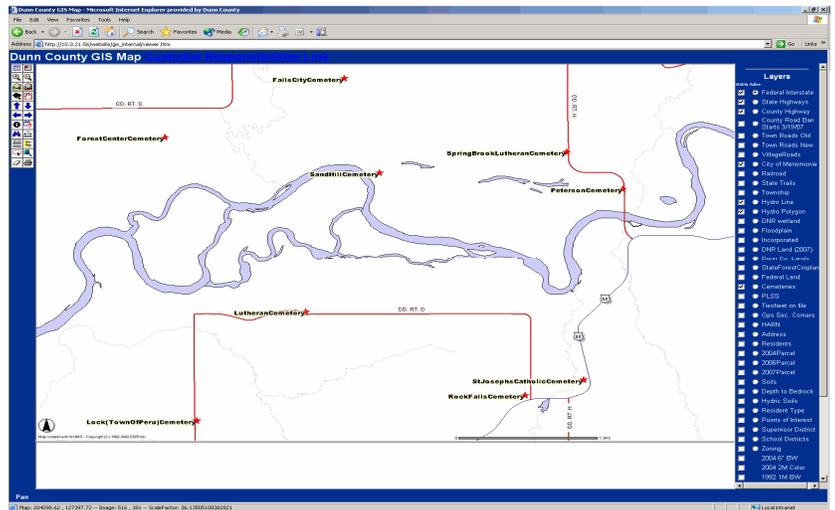
In 2003, Dunn County upgraded the DocuTrack and DocuFee system to the idocument document management system which included moving all document data onto a relational database management system and moving document image storage from optical platters to a Storage Area Network (SAN) server. In addition, all CSM's for the county were scanned and loaded into the database and imaging systems. The idocument system also provides web portal based subscription services for business and a transaction credit card based service for the public and business for access to recorded documents.



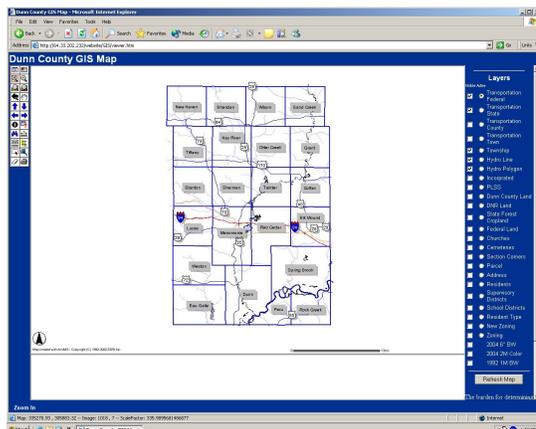
In 2006, The IT Division imported scanned images of subdivision plats into the iDoc document recording system and then scan new plats recorded in the ROD office and imported them into the iDoc system. Conversion of the ROD Office's microfiche copies of recorded documents from 1988 – 2000 (260,000 pages) to image files was contracted out and then IT staff imported the files into the office's iDoc document recording system. With the completion of these projects the ROD Office will have recorded documents from 1998 to present, all certified survey maps, and all subdivision plats in the iDoc document recording system.

In, 2008 the Dunn County cemetery layer was created from ROD records and published to the GIS Website. The remaining legacy documents predating 1988 and the original tract index books were contracted out to be scanned and IT staff imported the scanned documents into the iDoc system.

In 2010, the ROD office will be upgrade from the current iDoc system to Fidar's new AVID system which will be a server hosted solution provided by Fidar. The application will run on virtualized Windows 7 desktops running on Pano Zero Client Virtual Desktops. The ability to redact social security numbers will be included in this upgrade and be carried out on a monthly basis as funding through the redaction fees allow.



7. Development and Maintenance of Dunn County Internet GIS Site

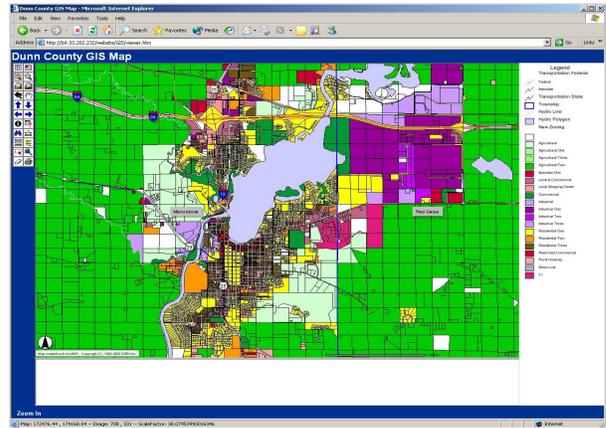


Dunn County has developed a GIS Internet site using ESRI's ArcIMS for the publishing of Land Information and GIS data. This has provided the public, private sectors, government, and Dunn County agencies Internet based access to the County's GIS layers and land information data. The funding was provided by a WLIP Contribution-Based Grant Award. The software platform (ArcIMS),

however, is becoming obsolete. Dunn County will be moving ahead with upgrading the GIS website platform to a more current and functional web based software (ArcGIS Server using an ESRI API for Flex). This platform will enhance user functionality, allow better multi departmental interaction, and will facilitate future growth, expansion and enhancement of the solid and relevant base data the County maintains.

8. Cooperative Data Sharing and Zoning Layer with City of Menomonie

Dunn County has developed a cooperative agreement with the City of Menomonie to use the County’s digital base layers, in particular the parcel layer, as a base for the development of the city’s public utilities and other GIS layers. In addition, Dunn County has entered the city’s zoning information into the County’s land information database system and created a zoning layer as part of the County’s GIS which is available to the city through the County’s GIS web portal.

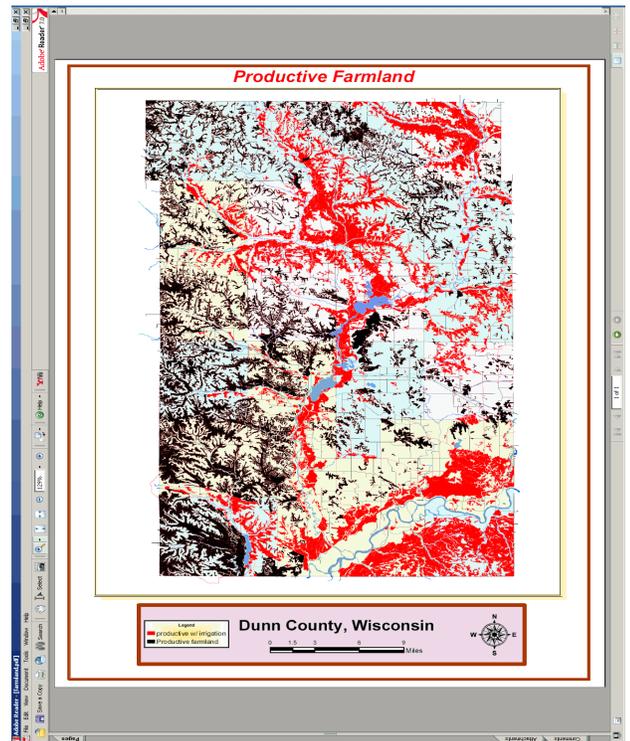


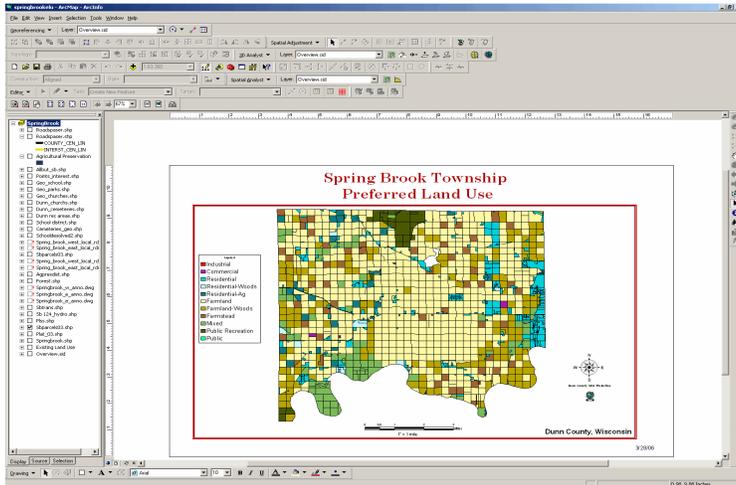
9. Information Technology/Land Information Services to Departments

The following briefly summarizes the cooperative efforts of the Information Technology/Land Information Services team providing service to several County Departments to support their day-to-day job activities and functions. This list is not complete, but encompasses some of the projects and tasks that were completed to support other Departments and Divisions using the power of the GIS system.

Land Conservation Division

Using the soils database, various soils maps were created for the February 2007 Dunn County Land and Water Resource Management Plan. Staff assisted the Land Conservation Staff with various Global Positioning System (GPS) issues, including one-on-one meetings, data manipulation and conversion, and GIS assistance.



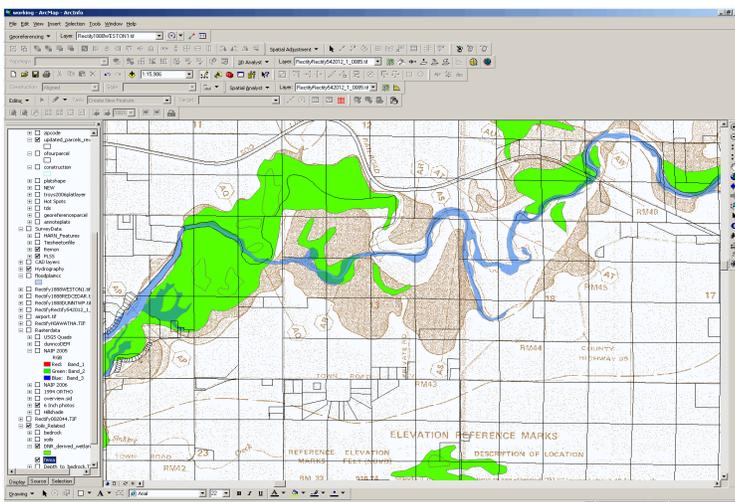
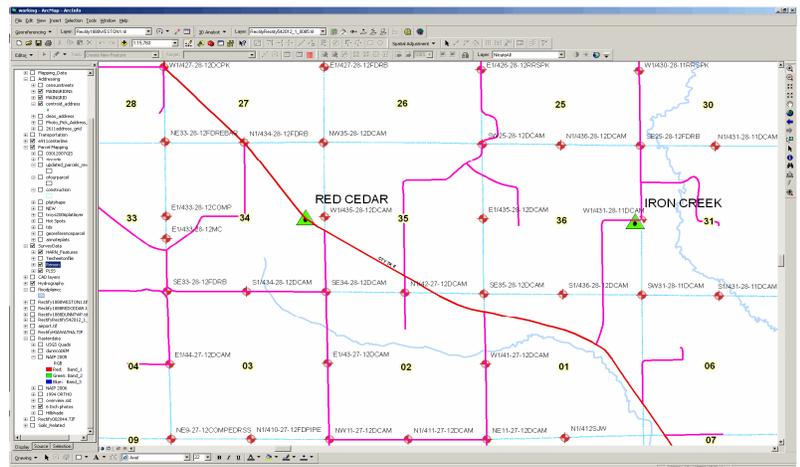


Planning Division

Numerous one-on-one training and support sessions were conducted with the Smart Growth Planner. Created data for and also derived maps for the existing and preferred land use plans.

Surveying Division

Provided training and guidance to staff on the use of GPS equipment, proper methods, and CAD software. Updated the remonumentation database for publication to the GIS Internet site, including the mapping and database information for the High Accuracy Reference Network (HARN).



Zoning Division

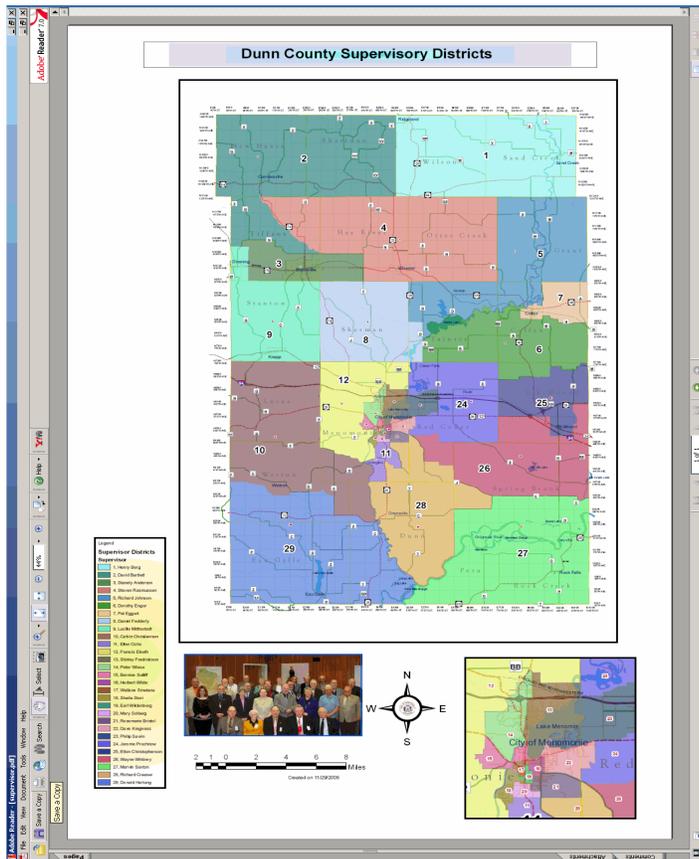
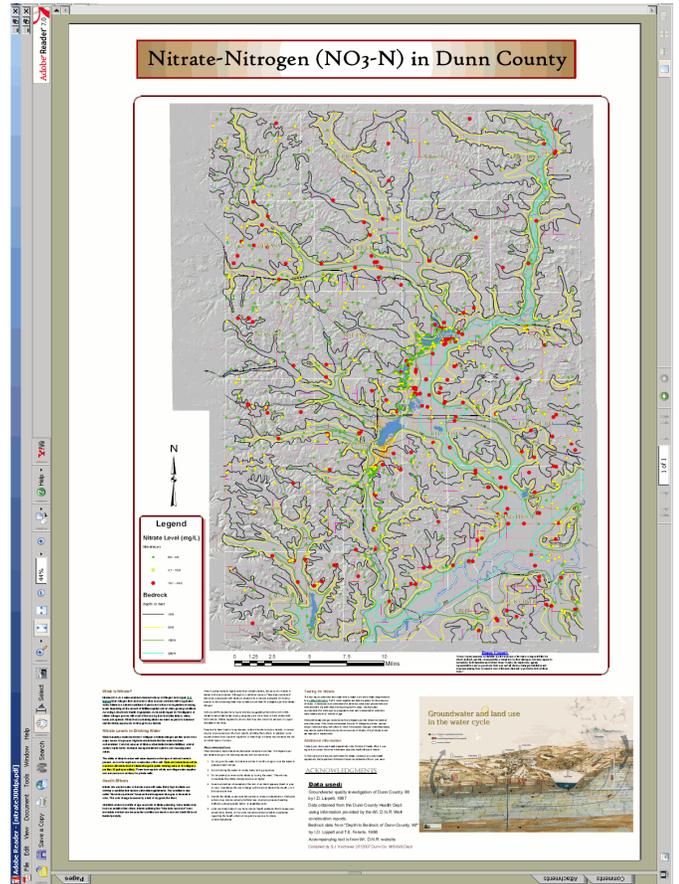
Several projects have been completed and are on-going. GIS layers were created by digitizing or geo reference overlays of FEMA floodplain maps and DNR and other agency wetland maps for floodplain and shore land zoning requirements. A county wide E911 transportation layer was created and address grids and ranges were added to aid in road naming and address signing.

Public Health Environmental Health Division

A radon level map was created that shows problematic areas and will enhance public awareness of this type of problem and nitrate level map that shows high levels of contaminated ground water within Dunn County.

Miscellaneous Projects

Other projects have been completed for other county departments, agencies, private sector, and the public. Our goal is to provide great customer service with quality products



C. NEW INITIATIVES

1. Proposed Project

Dunn County's new initiatives are part of on going activities in land information departments within the County. Many of the initiatives were mention in the ongoing activities section. Following is a summary of those initiatives:

- Development of a cadastral parcel map as defined in the WLIA Parcel Standard and compliant FGCS Parcel mapping requirements.
- Implementation of Dunn County's new Land Information Management System including Parcel Administration and Assessment Information management integrated with the Counties GIS system.
- Migration of the current Register of Deeds idocument system to the vendor's new Avid system with the ability to redact social security numbers as part of the upgrade.
- Upgrading the Counties current ESRI ArcIMS GIS website platform to a more current and functional web based software using ESRI ArcGIS Server using an ESRI API for Flex. The upgrade will provide more user friendly access to Counties website by providing enhanced query and reporting capabilities. Dunn County provides access to all of the counties land information data through the website (see Dunn County's website at www.co.dunn.wi.us)

Dunn County has the technical abilities and staff in house to carryout development of the Counties land information programs which are funded by retained fees, tax levy funds, and grants and follow the Counties requirements for competitive purchasing as outlined in the Counties purchasing policies (see Dunn County's website for information www.co.dunn.wi.us).

2. Assistance Requested

- A. Dunn County seeks input and technical assistance when needed from a variety of resources including industry best practices and standards, other government agencies, private industry, public, WLIA & FDGC standards, vendors, GIS & land information organizations membership (WLIA, EWUG, etc.), industry journals, technical training, workshops, and seminars. The County is connected to the WLIP's Land Information Clearinghouse and Technical Assistance List Server.
- B. See section "A. GOALS and OBJECTIVES" subsection "3. Continued Maintenance of Electronic Land Information".

- C. See section “A. GOALS and OBJECTIVES” subsection “2. Geo Reference and Standard Industry Formats” and section “E. FOUNDATIONAL ELEMENTS” subsection “F. Public Access”.
- D. The County will consider participating in a statewide GIS repository based on approval to participate by the Executive Committee/Land Information Council and the County Board of Supervisors and not impacting revenues generated by land information data sales or access.
- E. All purchased made by the Information Technology division comply with Dunn County’s Purchasing Policy contained in the County’s [Chapter 7 Financial Management](#) Code of Ordinances and appropriate State Statues.

3. Problems Encountered

In planning for the development of a cadastral parcel map as defined in the WLIA Parcel Standard and compliant FDGC Parcel mapping requirements one issue that has arisen is an accurate right of way layer for the parcel database. In the past 20 years, the Dunn County Highway Department has acquired fee title to miles and miles of private land for the improvement of County Highways. These deeds are complex and lengthy. In addition, many miles of State and Federal road have also been previously conveyed by one form of deed or another. A project has begun to work on designating and mapping the right of way and including it in the parcel layer dataset, but limited staffing in both the Surveying Division and Land Information Services section will impede the project.

D. CUSTODIAL RESPONSIBILITIES

The **Register of Deeds** office responsibilities include receiving, recording, and storing of all legal documents relating to real estate, vital records, and Uniform Commercial Code documents. (§ 59.43)

The **Zoning** office responsibilities include maintaining and enforcing the Dunn County's comprehensive zoning ordinance for 18 of the 22 townships in the county and sanitary and private sanitary system ordinances. (§ 59.69)

The **Surveying** office responsibilities include the remonumentation of the County PLSS corners and maintaining vertical NAVD 88 and horizontal (NAD83/91) control on all PLSS corners and geodetic control points in the county. The office updates and maintains the PLSS remonumentation database and files, the HARN network, survey maps, field notes, and old survey reference records. (§ 59.45)

The **Land Conservation** office responsibilities include designing and installing soil erosion control and water quality practices for agricultural, commercial, and recreational development, and developing land and resource management plans.

The **Highway Engineering** office responsibilities include planning and management of all county highways, right of ways, pavements, bridges, culverts, and road signs. (§ 83.09(7) (g))

The **Treasurer** office responsibilities include maintaining and administering the County's property tax collection system, collecting mill rates from townships, printing property tax statements, receipting property and personal property taxes, managing tax settlements, managing delinquent tax parcels, and administering the state lottery credit program. (§ 59.25)

The **Emergency Planning/Communications** office responsibilities include planning and management of the E911 Master Street Address Guide database (MSAG), hazardous materials maps, and coordination of all natural and manmade disaster services in the county. (§ 146.70)

The **Land Information** office responsibilities include maintaining the assessment and tax rolls for municipalities (§ 70.09), rural address mapping and issuing new addresses for rural properties (§ 59.54), E911 addressing & mapping, editing and updating of digital base layers, associated databases, and metadata for all of the datasets that are offered for public and internal use.

Dunn County currently does not wish to assume custodial responsibility of any data or information and would only assume responsibility of such data or information if requested if enacted by statute, administrative rule, or approved by the Board of Supervisors of Dunn County.

E. FOUNDATIONAL ELEMENTS

1. Geographic Positioning Reference Frameworks

The county has an ongoing PLSS remonumentation project that complies with state statutes. This has been accomplished utilizing GPS latitude and longitude to measure corner coordinates and converting them to the county coordinate system.

In conjunction with the National Geodetic Survey (NGS) and the WI. D.O.T., (see WISCORS) the County is moving toward implementing a continually operating reference station (CORS), at a pre-determined location, to serve the local surveying community. The station will broadcast a corrected differential GPS signal so the Real Time Kinematic (RTK) users can receive and utilize this data using a GSM or modem cell phone link.

The Dunn County Surveyor's office maintains 107 concrete monuments (high accuracy reference network or HARN stations) which are 5½ feet deep, 12 inches in diameter with brass caps and reinforcing bar. The monuments are placed at approximately three mile intervals (not to exceed five) based on terrain and access to GPS satellites. The HARN will be supplemented by several new brass in concrete stations as part of the Wisconsin Height Modernization Program (WI HMP). Once published, these geodetically accurate stations will provide better countywide coverage for an aging HARN.

The Dunn County grid coordinate system parameters are as follows:

- latitude of originate 44°24'30" N
- longitude of originate 91°53'40" W (central meridian)

Note: Based on a transverse mercator projection with a false northing of 0 and false easting of 51, 816.104 meters or 170,000.00 feet. The scale factor is 0.99999773. (Ellipsoid data can be obtained from the State Cartographers Office)

2. Orthoimagery and Georeferenced Image Base Data

- A. 1992 USGS Orthophoto of Dunn County
- B. 2004 6-inch resolution, 1"=100' scale grayscale NMAS digital orthophotography.
- C. 2004 NAIP 1M Color orthophotography
- D. 2007 6-inch color resolution digital orthophotography:
 - MrSid compressed orthophoto mosaic of the entire county in-which photo file size is not to exceed 1 (one) Gigabyte with minimal error.
 - MrSid compressed orthophoto of each township with minimal error.
 - TIFF images edge-matched with no pixel gaps tiled as determined by Dunn County.
 - Federal Geographic Data Committee (FGDC) compliant Metadata for all deliverables
- E. 2008 NAIP 1M Color orthophotography
- F. Dunn County maintains historical aerial imagery with the in hard copy and are stored in the Environmental Services Department Offices.

3. Elevation Data Products and Topographic Base Data

Dunn County's sources of county wide elevations are:

- A. 1992 USGS Digital Elevation Model (DEM) that was produced as a result of the USGS Orthophoto of Dunn County in 1992. The DEM is accurate to 20-30 feet and 10 foot contours can be generated from it.
- B. 2007 LiDAR Data
 - First return all shots Digital Terrain Model (DTM) in ASCII x y z i format.
 - Last return bald earth Digital Terrain Model (DTM) in ASCII x y z format.
 - Last return bald earth Digital Elevation Model (DEM) in ASCII x y z format.
 - 2 foot interval contour and breakline mapping of hydrologic features such as rivers, lakes and ponds in DXF format.
 - Federal Geographic Data Committee (FGDC) compliant Metadata for all deliverables
- C. Digital Terrain Model (DTM) provided by the DNR as part of the FEMA floodplain update based on Dunn County LiDAR data.

4. Parcel Mapping

Dunn County has completed a county wide parcel layer. Please see section “B. PROGRESS REPORT ON ONGOING ACTIVITIES” subsection “1. Digital Base Layers” for additional information.

5. Parcel Administration and Assessment Information

Please see section “B. PROGRESS REPORT ON ONGOING ACTIVITIES” subsections “1. Digital Base Layers”, “6. Recorded Document Management System”, and “2. Land Information Management System” for information.

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

Dunn County maintains a transportation layer and data which contains federal, state, county, township, village city, trails and railways. The transportation layer is an accurate centerline map with all topology broken at intersections to allow for street routing and addressing. The transportation layer is used for maintaining and locating addresses, asset management (bridges, signs, culverts), pavement management, accident location, traffic analysis, E911 routing, and to develop right-of-way of public roads. Dunn County maintains address ranges on the E911 transportation layer and an address point file layer with address points located on approximate driveway locations.

7. Hydrography, Hydrology and Wetland Mapping

Dunn County maintains digital layers and data for surface hydrology and watersheds. Digital layers and data were developed using GPS and digital orthophotography. The digital wetland maps have been acquired from the DNR. The wetlands have been converted into GIS datasets and Dunn County coordinate system.

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

The Dunn County Land Conservation Department in cooperation with the USDA Natural Resource Conservation Service completed a digital soil survey for Dunn County. NRCS delivered the new soil maps to Dunn County in 2003. Dunn County maintains digital layers and data for non-metallic mining, land cover, and forest lands. Digital layers and data were developed using GPS and digital orthophotography.

9. Land Use Mapping

Dunn County is currently working with the townships and assisting with the development of Land Use plans as requested. Beyond the assistance in developing Land Use layers and data, the county has coordinated, and incorporated all township plans into a county wide plan. The county will also help maintain all land use layers and data developed for the townships, villages, cities, and the county. In addition, Dunn County is in the process of a rewriting the County zoning ordinance based on a classification system based on the land use plans developed. The GIS parcel and zoning are be utilized to provide an effective tool to accomplish this in a robust and organized way.

10. Zoning Mapping

The Dunn County digital parcel layer can be directly linked to the zoning information contained in the Land Information Management System providing completely automated and continuously updated zoning maps for the townships under village, city, and county zoning. The county maintains hardcopy FEMA FIRM maps for 100 year floodplains and will be receiving digital layer from the Wisconsin Department of Resources in 2011 as part the state wide floodplain update project. Please see section “B. PROGRESS REPORT ON ONGOING ACTIVITIES” subsection “3. Digital Ortho Photography/LIDAR Project”.

11. Election and Administrative Boundary System

Dunn County maintains digital layers and data for county boundaries, civil divisions, supervisory districts, public lands (such as parks, forests, wildlife refuge, and hunting grounds), tax incremental financing districts, school districts, lake districts, and public lands, minor civil division boundaries, legislative, voting, fire, ambulance, police, and exchange districts. The GIS is powerful and dynamic and used for an array of requested tasks.

12. Infrastructure and Facility Management

See section “B. PROGRESS REPORT ON ONGOING ACTIVITIES” subsection “1. Digital Base Layers” for descriptions of Dunn County’s infrastructural layers, and section “E. FOUNDATIONAL ELEMENTS” subsection “6. Street/Road Centerlines, Address Ranges and Address Points”.

13. Database Design and System Implementation

Dunn County uses state of the art virtual servers using VMware vsphere 4.1 (vcenter) for Virtual Machine Management and ESX 4.1 and Microsoft Server 2008 R2 Hypervisor for Virtual Machine deployment to maintain all application and database systems and uses Microsoft SQL Server 2005 and 2008 for all internal database applications county wide. Dunn County utilizes Information Technology Infrastructure Library (ITIL) and PMI PMBOK project management and planning standards and methodologies. Gant charts are produce for project timelines. Dunn County utilized ITIL's operations, capacity planning, and change management methodologies for implementing and maintaining all Information Technology systems and follows best practices and industry standards for securing the County's infrastructure including AD Domain, strong password protection, firewalls, virus, malware, and spam filtering for all incoming data, intrusion detection, etc. to actively protect all the County's informational assets. For GIS based projects ESRI meta data and data modeling are developed and maintained for digital base layers and associated databases.

See section "B. PROGRESS REPORT ON ONGOING ACTIVITIES"
subsection "2. Land Information Management System".

F. Public Access

1. Use of technology to facilitate efficient access

Access is provided in county facilities for the following:

- Recorded Document Management System
- Land Ownership Information
- Property Tax information.

Internet Access is provided for the following:

- Recorded Document Management System
- GIS and Land Ownership Information
- Property Tax information

Dunn County is providing access to most land related information through public Kiosks in land information offices and through internet access through Dunn County's GIS Web Portal.

2. Use of third party technology for access

Dunn County provides internet based access to Register of Deeds Documents to businesses and the public through a monthly subscription fee or pay as you go based system provided as a hosted service through the software vendor that Dunn County utilized for the Register of Deed Document and Imaging system.

3. Data Sharing Policies and Open Access to Data

Dunn County complies with Wisconsin open records laws and makes it data available by web access and datasets on DVD. See Use of Technology to facilitate efficient access above.

4. Subscription based and Public Web Sites and Internet Accessibility

See Use of Technology to facilitate efficient access above.

5. System Security

Dunn County follows best practices and industry standards for securing the County's infrastructure including AD Domain, strong password protection, firewalls, virus, malware, and spam filtering for all incoming data, intrusion detection, etc to actively protect all the County's informational assets.

6. Privacy Policies

Dunn County complies with Wisconsin Open Records Law and complies with State statutes for access to restricted records.

7. Use of 2 Dollar Fee Designated for Web Base Land Information Access

The two fees collected by Dunn County are utilized to assist in providing public access through the internet. See Use of Technology to facilitate efficient access above.

G. INTEGRATION AND COOPERATION

1. Integrative/Cooperative relationships

Dunn County has illustrated in the following sections with plans for partnering with both government and private sector agencies and specific examples of cooperative relationship with internal and external partners and customers and through the whole body of this report that the County has and will continue to maintain and develop relationships that foster sharing, distribution, utilization, and collaboratively pursue of land records modernization.

2. Potential partners/projects

Dunn County is interested in developing relationships for recreational trail mapping, utility network mapping, E911 mapping. Potential partners would be local recreational originations, utility companies, and local and regional governments.

3. Data shared/used

Digital base map would be shared and used for the common registration of data sets appropriate with the data layers being developed for the project and dependent on partner's requirements.

4. Shared Benefit of Land Information Program

The Information Technology Division and Land Information Service section provides Information Technology, Land Information, and Geographic Information System services to all departments that have need or request services from the Information Technology Division. See section "B. PROGRESS REPORT ON ONGOING ACTIVITIES" subsection "9. Information Technology/Land Information services to Other Departments"

5. Municipality and Other Agencies Participation

The county works closely with local units of government within the county and has developed cooperative agreements with them for data sharing, providing land use services, and geographic and land information services. Dunn County has developed a cooperative agreement with the City of Menomonie for data sharing and GIS services. See section "B. PROGRESS REPORT ON ONGOING ACTIVITIES" subsection "8. Cooperative Data Sharing and GIS Zoning Layer with City of Menomonie". USDA NRCS is a cooperative partner with the county's soil survey and has been a cooperative partner in other GIS projects in the past. Dunn County will continue to seek out opportunities for integration and cooperation in the development, sharing, and use of geographic and land information data, services, and systems.

H. COMMUNICATION, EDUCATION, TRAINING, and FACILITATED TECHNICAL ASSISTANCE

1. Documentation of data, models, and processes

The Information Technology Division and Land Information Services section develop policies, processes, procedures, and requirements for all projects and corresponding process diagrams, procedural task, application & server installation and configuration, xml data & database model and schema, metadata, and numerous other documents. All systems are fully documented and can be reproduced from the documentation and are continuously reviewed and edited for errors during the maintenance lifecycle of the system.

2. Resources available

Land information staff participates in video conferences, workshops, seminars, user groups, etc., as appropriate and where budget allows. Staff will continue to work with other counties and use the technical list server for technical assistance where more assistance is needed.

3. Identification of customers needs

The information Technology division follows the principles of Business analysis and users needs assessment when planning, developing, implementing, and maintaining systems. This may be conducted internally or by contracting with outside consultants to assist in this process. Standard tools such as surveying customers, felicitating needs assessment, and brain storming sessions are utilized

4. Coordination of education/training with agencies, associations and educational institutions.

As opportunities arise, we will participate as appropriate and where budget allows. Dunn County staff will continue to share our experiences with others and provide technical or training assistance where we can or use such services and available for Dunn County. As an example, Eau Claire County along with ACS the vendor of both Eau Claire County's and Dunn County's new Assessment Office, Billing & Collection Office, and Land Development Office Land Information Management system are working cooperatively together to train Dunn County staff on the new system.

5. Use of technology to facilitate education and training.

Dunn County staff has access to a dedicated training room with 12 zero client workstation, 60 " LCD display, projector, internet access and the ability to create Virtual Machines for server, desktop, database, and application that can be mapped to the zero client desktops and change on the fly for different training need and requirements.

6. Use of or plan to participate in, clearinghouse/repository and land information technical assistance listserv.

Dunn County staff has access to the Internet and e-mail that allows for use of the clearinghouse and technical assistance list server. The County will continue to monitor the development of the clearinghouse and standards as they are developed.

7. Use of land information officer education and training funds

Dunn County Land Information Officer (LIO) participates in the Wisconsin Land Information Association (WLIA) conferences and associated technical training, ESRI training and seminars, and other appropriate conferences, seminars, workshops, or training classes related to land information and consistent with Dunn County's Land Information Plan.

I. ADMINISTRATIVE STANDARDS NOT ASSOCIATED WITH FOUNDATIONAL ELEMENTS

1. The county agrees to observe and follow the statutes relating to the Wisconsin Land Information Program and other relevant statutes.
2. The county agrees to permit the Wisconsin Department of Administration (DOA) access to books, records and projects for inspection and audit upon reasonable notice by the DOA. Other land information records are available in compliance with the Wisconsin Open Records Law.
3. The County agrees to complete the Annual GIS Inventory Survey.
4. The county agrees to update the plan every 5 years and 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.