

# **2006 ANNUAL REPORT**



**PREPARED BY:  
CITY OF MUSKEGO PLANNING DEPARTMENT**



## **2006 Planning Annual Report**

This annual report provides an overview of the Planning Department's progress on departmental projects and various community growth issues for the year. The Planning Department promotes both the careful development of land, and the preservation of Muskego's natural resources. To accomplish this, the Department is involved a variety of programs, including current and long range planning, geographic information systems, economic development, zoning administration, lake management, urban forestry, and conservation management. The Department's role also includes the dissemination of this information to the public, and coordination with county, regional, state, and federal officials. The enclosed information provides a detailed look at the recent accomplishments of Planning Department staff while also providing yearly statistical info on how the City is growing on an annual basis. The statistical info helps all of us to better plan our community, while the project information enables the City to see how the Planning Department has functioned as part of the local government in Muskego.

### **Mission Statement**

Muskego is planned each and every day by professional staff whose mission is to:

*Promote the orderly development of Muskego in an efficient and aesthetic manner through long-range and current planning, provide public information and data on planning issues, and coordinate related areas of geographic information systems, economic development, zoning administration, urban forestry, and conservation management.*

### **2006 Planning Department Staff**

Jeff Muenkel, Planning Director  
Adam Trzebiatowski, Associate Planner  
John Wisniewski, GIS Coordinator  
Tom Zagar, City Forester  
Sandi Asti, Planning Secretary  
Sean Meehan, GIS/Planning Intern  
Matt Kulinski, Conservation Technician

### **Also a Special Thanks to Former Staff Members from 2006**

Emily Champagne, GIS Coordinator  
Tonia Roddick, GIS/Planning Intern  
Marissa Pankowski, Conservation Technician

## **TABLE OF CONTENTS**

### **Planning Activities**

Miscellaneous Planning Items	1
Mayors Task Force on Janesville Road Reconstruction	1
Comprehensive Plan Updates	2
Zoning Code Rewrite	2
Plan Commission Items	4
Building, Site, and Operation Plans (BSO)	5
Zoning Board of Appeals	6
Land Development and Divisions	6
Subdivision Final Plats	6
Preliminary Plats	8
Extraterritorial Plats	8
Condominium Plats	8
Certified Survey Maps (CSM)	9
Rezoning, 2010 Plan Amendments, and Conditional Use Grants	11
Housing	13

### **Geographical Information System Activities**

MapMuskego	17
GIS User Survey	18
GIS Training – Staff and Public	18
Maps Created and Updated	18
ArcSDE	19
Storm and Sanitary Geodatabase Model	19
Planimetric Mapping	20
ArcGIS 9.2	21
Easements & Structures	21
GIS Day	22
GIS Staff	22
Engel Conservation Area Mapping Project	23
ESRI Wisconsin User Group (EWUG)	23
Wisconsin Land Information Association (WLIA)	24
Southeastern Wisconsin ESRI Technical Users Group	24
Waukesha County Land Information Technical Working Group	24

### **Conservation and Forestry Activities**

Conservation	25
Engel Conservation Area	25
Lands Acquisitions	26
Prescribed Burns in 2006	26
Urban Forestry	27
Lakes	27
Water Quality of Muskego's Major Water Bodies	27

### **Economic Development Activities**

Janesville Road – Request for Proposal (RFP)	29
--	----

### **Maps**

Map 1 - 2006 Development and Land Divisions	10
Map 2 - 2006 Zoning, 2010 Land Use, & CUG Changes	12
Map 3 - 2006 New Construction	16

### **Graphs**

Graph 1 - Residential New Construction by Year	14
Graph 2 - Commercial/Industrial Permits by Year	14
Graph 3 - Month-by-Month Total Permit Numbers	15
Graph 4 - Month-by-Month Average Single Family New Home Values	15

# Planning Activities

## Miscellaneous Planning Items

### Mayor's Task Force on Janesville Road Reconstruction

During the winter/spring of 2006 the Planning Department aided in leading the Mayor's Task Force (MTF) on Janesville Road Reconstruction. The MTF was created to study and pose recommendations relating to the design concepts that would be a part of the future Janesville Road reconstruction that is slated in the next few years for the portion of Janesville Road between Moorland Road and Racine Avenue. Planning Department staff provided recommendations and reasoning as to what design implementations may be best fit along the reconstruction route. Ultimately, the Mayor's Task Force answered the following questions: How the street segments will be planned (Boulevards, turning lanes, etc.); If utilities should be buried; Where landscaping should go; Where recreation trails should be; If street pavement treatments should be included; Where street lighting should occur; and, If street furniture should be included anywhere along the route. The Plan Department led a public information meeting at the Muskego Library where over 100 residents and business owners showed up to provide their concerns and recommendations. Overall, a final resolution by the Mayor's Task Force and the Common Council was forwarded to Waukesha County. The recommendations will aid in guiding a County design consultant in 2007 to provide the appropriate needs to the Muskego community for Janesville Road. Some excerpts from the recommendation map are found below.

**Segment #3: Parkland Dr to Lannon Dr**

**PRELIMINARY RECOMMENDATIONS**

**Roadway Design:** Four through lanes with a boulevard center section with one breakup at the Park & Ride entrance. This segment to look at on-street parking may be appropriate in this area & upon design it presents the customer look and is safe.

**Utility Lines:** Bury all infrastructure (i.e., electrical, AMI, telephone, water, sewer, etc.) throughout entire project area.

**Landscaping:** Landscaping should be found within the boulevard areas and flowerbeds with irrigation an enclosure wall to be implemented. Further, a landscaping master plan should be implemented and approved with the design of the project outlining what can be planted by bordering residents and business owners.

**Recreation Trails:** Five-foot wide concrete recreation trails on both sides of the reconstructed street throughout the project.

**Decorative:** Decorative lighting would be staggered throughout entire project area matching the colors and design of lights found at the Muskego Library. Traffic signals and directional signage should match the design and colors of the decorative lighting. Street furniture would not be implemented as part of the reconstruction project at this time. Street furniture needs will be reviewed after project completion as defined areas for such items cannot be determined until the public usable areas are known.

**Pavement Treatments:** No pavement treatments made out of concrete as is in the Tress Corners area. However, decorative asphalt treatments should be implemented into the project at the major intersections.

**Other Recommendation #1:** It is recommended that new traffic signals are installed at the intersection of Parkland Drive during the construction of the street.

**Other Recommendation #2:** It is recommended that the road reconstruction be designed and implemented with the least amount of impact to property owners as possible and all provisions should be taken to minimize the amount of property acquisition needed during the reconstruction.

**Timeline Recommendation:** The reconstruction from Moorland Road to Racine Avenue should take place in no more than two phases with each phase taking no more than one year each. Further, it is wished that the two phases of reconstruction are completed in two consecutive construction seasons.

**Segment #4: Lannon Dr to Pioneer Dr**

**PRELIMINARY RECOMMENDATIONS**

**Roadway Design:** Four through lanes with a two-way left turn center section with the least amount of impact to property owners as possible.

**Utility Lines:** Bury all infrastructure (i.e., electrical, AMI, telephone, water, sewer, etc.) throughout entire project area.

**Landscaping:** Landscaping should be found within the boulevard areas of this segment. Further, a landscaping master plan should be implemented and approved with the design of the project outlining what can be planted by bordering residents and business owners.

**Recreation Trails:** Five-foot wide concrete recreation trails on both sides of the reconstructed street throughout the project.

**Decorative:** Decorative lighting would be staggered throughout entire project area matching the colors and design of lights found at the Muskego Library. Traffic signals and directional signage should match the design and colors of the decorative lighting. Street furniture would not be implemented as part of the reconstruction project at this time. Street furniture needs will be reviewed after project completion as defined areas for such items cannot be determined until the public usable areas are known.

**Pavement Treatments:** No pavement treatments made out of concrete as is in the Tress Corners area. However, decorative asphalt treatments should be implemented into the project at the major intersections.

**Other Recommendation #1:** It is recommended that new traffic signals are installed at the intersection of Pioneer Drive during the construction of the street.

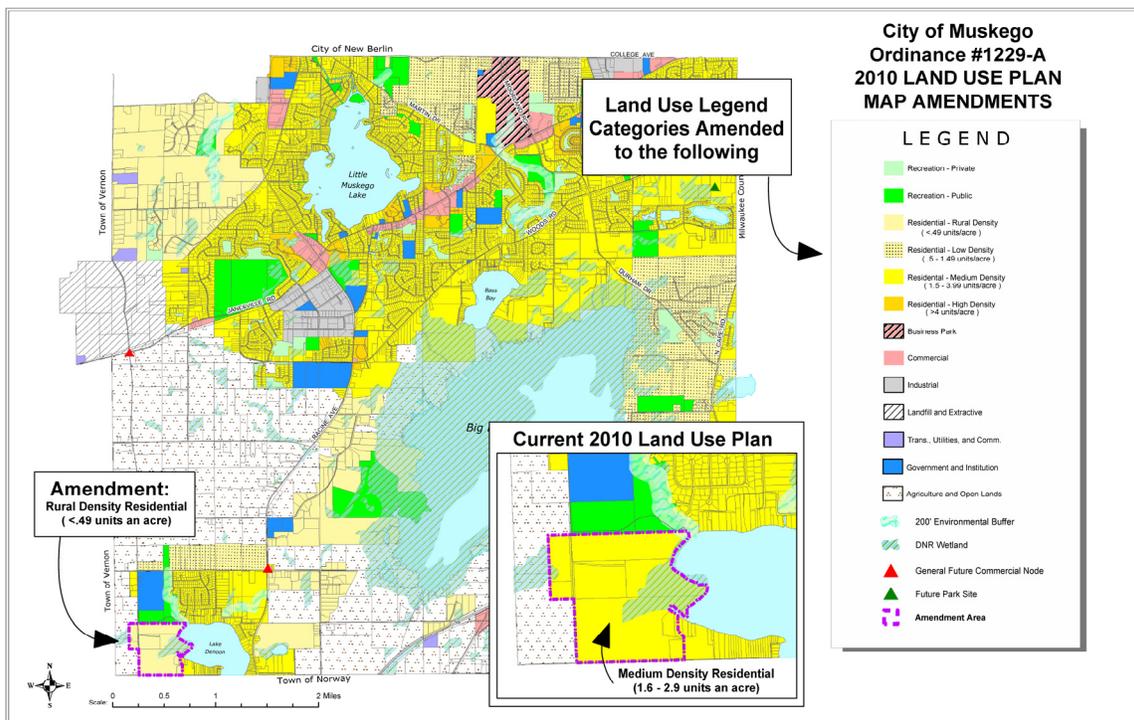
**Other Recommendation #2:** It is recommended that the road reconstruction be designed and implemented with the least amount of impact to property owners as possible and all provisions should be taken to minimize the amount of property acquisition needed during the reconstruction.

**Timeline Recommendation:** The reconstruction from Moorland Road to Racine Avenue should take place in no more than two phases with each phase taking no more than one year each. Further, it is wished that the two phases of reconstruction are completed in two consecutive construction seasons.

Examples of Recommendations for the Janesville Road Reconstruction

### Comprehensive Plan Updates

2006 brought upon an unprecedented action between the Planning Department and the Common Council. A full review of the 2010 Comprehensive Plan Map was discussed in front of the Committee of the Whole. After much scrutiny, four large areas on the map were put forward to public hearing for change in densities. Most of the changes were concentrated around the lakes as the elected officials sought to have lower density residential for these areas into the future. Other changes were also made to match current zoning to the Comprehensive Plan. After months of study and meetings, the Council ultimately adopted the new Comprehensive Plan Map (Excerpt of that map shown below). By completing this extensive review of the map, the City is now able to adequately direct property owners and prospective developers in the appropriate way. The Council was able to make a statement that the current densities portrayed in the 2010 Comprehensive Plan Map is the direction of the City at this time and into the near future, at least until the Comprehensive Plan is updated in the next few years.



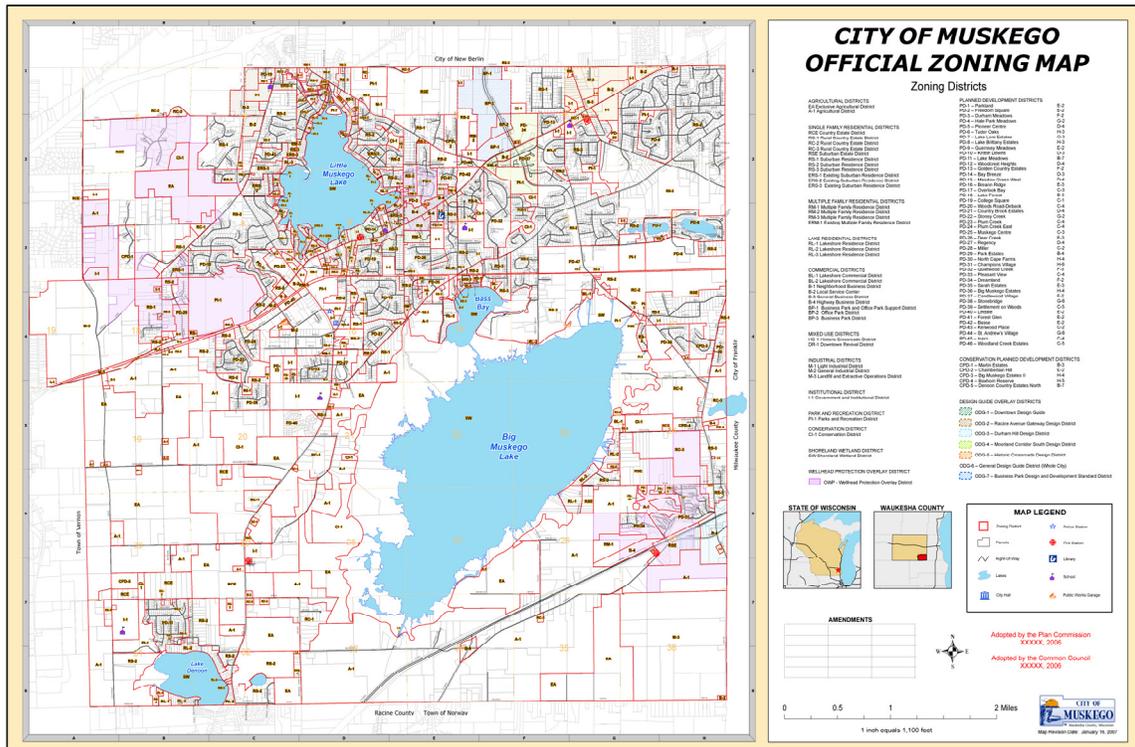
2010 Land Use Map Amendment Example

### Zoning Code Rewrite

The repeal and recreation of the Chapter 17 Zoning Ordinance found its way to final stages during 2006. The Planning Commission and the Committee of the Whole reviewed the final text and map extensively during the summer of 2006. Ultimately, the code went to public hearing in December and should be ready for adoption in early 2007.

Zoning is the way the governments control the physical development of land and the kinds of uses to which each individual property may be allowed. The City currently has Chapter 17 of their Municipal Code dedicated to Zoning, which has been utilized and amended since 1963. Many aspects of the code have been in dire need of updates as a result of non-conformities and discrepancies. As a result, the Planning Department began the process to rewrite the entire Zoning Code for the City in 2005. New zoning categories were added and some removed. The ultimate goal was to have a code that is easier to understand, eliminates non-conformities, and is adjusted to fit the flavor of the present times.

The new Zoning Code has many new changes to make zoning easier for City staff, residents, and business owners. The map changed according to the new districts that were created, although every property should continue to have the same zoning principles applied to their respective property with many becoming more conforming (Meaning that they should be: totally conforming, less non-conforming, or they remained the same). As part of the recodification, amendments were required to the City 2010 Comprehensive Plan Map, City Design Guides, and other ordinances (Chapter 18: Land Division Ordinance, Chapter 36 Wireless Facilities Ordinance, etc.). This is due to the many references that the zoning code makes in other documents.



Newly Proposed Zoning Map

## Plan Commission Items

There were 116 approved resolutions in 2006, along with 2 deferred resolutions (until 2007), 4 withdrawn/removed resolutions, 2 resolutions denied without prejudice, and 14 defeated resolutions.

Within the numbers listed above there were 5 approved resolutions that were carried over from 2005 that were approved in 2006. There also was 1 resolution defeated and 1 resolution that was denied without prejudice carried over from 2005.

The Plan Commission carried 6 resolutions from 2006 over to the 2007 approval year.

Year	Total Items Reviewed			Approved for Denial	Denied without Prejudice	Withdrawn/Removed	Deferred (until next year)	Docket (until next year)
	Reviewed	Approved	Denied	Denial	Prejudice	Removed	year)	year)
2004	130	119	2	-	-	-	2	7
2005	148	127	2	4	-	1	5	9
2006	144	116	14	-	2	4	2	6

Table 1

The Plan Commission approved a wide variety of items. Here is a look at some of the numbers for the items that they reviewed in 2006:

- Sign Applications (requiring Plan Commission approval) – 2 approved and 1 denied
- Annual and Biennial Reviews – 19 approved
- Concept/Sketch CSMs – 1 approved and 1 denied
- CSMs – 18 approved, 1 withdrawn, 1 denied without prejudice, and 4 on docket until 2007
- Extraterritorial CSMs – 5 approved
- Concept/Sketch Plats – 4 approved, 3 denied, and 1 denied without prejudice
- Preliminary Subdivision Plats – 4 approved, 1 denied, and 1 deferred until 2007
- Extraterritorial Preliminary Subdivision Plats – 3 approved
- Final Subdivision Plats – 4 approved
- Extraterritorial Final Subdivision Plats – None submitted
- BSOs & BSO Amendments (see below)
- Conditional Use Grants - New and Amendments (see below)

Planning Commission Approvals (2004-2006)							
These are a few of the items that the Planning Commission reviews. The numbers provided are for approved items only. Any denied, deferred, etc. items are not included in this table							
Year	Sign Applications (requiring PC approval)	Annual & Biennial Reviews	Conceptual/ Sketch CSMs	CSMs	Conceptual/ Sketch Plats	Preliminary Plats	Final Plats
2004	7	13	3	20	5	8	8
2005	5	13	2	15	2	6	6
2006	2	19	1	18	4	4	4

Table 2

### **Building, Site, and Operation Plans (BSO)**

In 2006 the Plan Commission received 9 new BSO plans for approvals. This is a decrease from 14 last year. Eight of those were approved and 1 was deferred until 2007. Also in 2006, Plan Commission reviewed 24 BSO Amendments for approvals, which is a decrease from 31 last year. Twenty of the amendments were approved, 2 were denied, 1 was deferred, and 1 was withdrawn.

BSO amendments can consist of a number of different items. Items that BSO amendments have contained are additions, alterations, site work (i.e. parking lot work, lighting, landscaping, fences, etc.), and signage. Some of the BSO items that the Plan Department and Plan Commission have reviewed are for single changes while others have been for numerous changes to entire sites.

Some of the major BSOs and BSO Amendments approved were for the following companies/organizations:

- Olson Outdoor Power - Relocation and Remodel
- C.I. Banker Wire & Iron Works - Building Addition
- Engel Conservation Area Plan - City of Muskego
- Park Arthur Plan - City of Muskego
- The Crossing at Tudor Oaks - New Buildings and Alterations
- Muskego Gateway Entertainment Complex - Building/Site Alterations
- Marx Pioneer Inn - Building/Site Alterations
- R.D. Meyer & Associates Mini-Storage - New Mini-Storage Buildings
- Maritime Savings Bank - 4,125 Sq Ft New Building
- Muskego Partners - Building Alterations
- Willow Pond Apartments - New Enclosed Garages
- DJ's Pub & Grill - Site Improvements
- J & O Trucking - Relocation, Remodel, and Site Improvements
- Paradise Pools - New Accessory Structure
- Mug-Z's Pub & Grill - Site Improvements
- 2 Two-Family Structures - Northfield Green Subdivision

Building, Site, and Operation Plans - BSO's (2004-2006)						
*NOTE: The numbers provided are for approved items only and any denied, deferred, etc. items are not included in this count						
Year	Total BSO's Applied For	Total BSO's Approved	New BSO's Applied For	New BSO's Approved	BSO Amendments Applied For	BSO Amendments Approved
2004	24	23*	8	7*	16	16*
2005	45	41*	14	11*	31	30*
2006	33	28*	9	8*	24	20*

Table 3

### Zoning Board of Appeals

The City of Muskego saw an increase in the number of requested variances in 2006. This year there were 11 appeal petitions that submitted for review in front of the Board of Appeals (one of which was carried over from 2005), which is up from 9 last year (*NOTE: Some petitions contained more than one variance*). Eight of which were granted, 2 were denied, and 1 was withdrawn. The Board of Appeals had the need to hold 8 meetings in 2006, which is up from 7 last year.

Zoning Board of Appeals (2004-2006)						
NOTE: Some petitions contained more than one variance.						
Year	Number of Meetings	Total Variance Petitions	Variance Petitions Granted	Variance Petitions Denied	Variance Petitions Deferred (until next year)	Variance Petitions Withdrawn
2004	3	7	5	1	-	1
2005	7	9	5	3	1	-
2006	8	11	8	2	-	1

Table 4

### Land Development and Divisions

The Planning Department aided in the platting of many new parcels in the City for residential use (See Map 1). All Plats and CSM's first receive a recommendation of Approval or Denial from the Planning Commission. After that, the Common Council makes the final vote on the Plat/CSM, taking the Planning Commission's recommendation into consideration. Here are some of those statistics relating to land divisions:

#### Subdivision Final Plats

During 2006, the Common Council approved 3 new final subdivision plats totaling 124 single-family lots, 12 two-family lots, 2 four-family lots, and 11 outlots, consisting of 125.34 total acres. Also, the City re-approved a final plat for Crystal

Lake Subdivision that was originally approved in 2005. The re-approvals were needed due to time concerns and/or slight alterations.

As a comparison, in 2005 the City approved 8 final subdivision plats totaling 139 single-family lots and 19 outlots; consisting of 139.49 total acres.

Final Plat Approvals (2004-2006)						
NOTE: These are based upon final approvals from the Common Council. * This does not include any approved Condo Plats, which are addressed separately below.						
Year	Total Final Plats Approved	Total Single-Family Lots	Family Lots (2 units or more per lot)	Total Commercial Lots	Total Outlots	Total Acreage
2004	6	132	19*	1	17	156.56
2005	8	139	-	-	19	139.49
2006	4	124	14* (32 total units)	-	11	125.34

Table 5

Here is a list of the approved Final Plats from 2006:

**Woodland Creek Estates (RS-2/OPD)**

- 60 single-family lots and 3 outlots
- 51.22 total acres (28.33 acres of residential lots, 17.20 acres of outlot, and 5.69 acres of right-of-way).
- Majority of the lots range between 18,000 SF and 21,000 SF in size.

This Subdivision is located to the west of Racine Avenue, about half a mile south of Woods Road. Access to the development is gained off of Racine Avenue. Almost all of the wetlands are preserved in outlots and they all have preservation restrictions upon them to ensure their protection. This development provided a street stub to the south and west for possible future development. Also, this development was chosen as the 2007 Parade of Homes Site.

**Woodland Creek Estates Addition 1 (RS-2/OPD)**

- 16 single-family lots and 5 outlots
- 20.78 total acres (8.15 acres of residential lots, 11.15 acres of outlot, and 1.48 acres of right-of-way).
- Majority of the lots range between 18,000 SF and 24,000 SF in size.

This Subdivision is an addition to the original Woodland Creek Estates Subdivision. It is located to the west of the original subdivision, which is located on Racine Avenue. This development preserved over half of the total acreage in outlots. There were 8.56 acres of this development that was dedicated to the City of Muskego for Conservation purposes. The development already abuts the eastern edge of the 150+ acre City Engel Conservation Area.

**Oakridge Glen (RS-2, RSA, & RSA/OIP)**

- 48 single-family lots, 12 two-family lots, 2 four-family lots, and 3 outlots
- 53.34 total acres (33.37 acres of residential lots, 13.41 acres of outlot, and 6.56 acres of right-of-way).
- Majority of the lots range between 20,000 SF and 30,000 SF in size.

This Subdivision is located off of the north side of Martin Drive, just northwest of Janesville Road. There was a specific effort within this development to preserve as much of the wooded areas as possible. A large portion of the woods are preserved within an outlot and a lot of the other wooded areas are preserved within preservation easements on the individual properties. There are numerous parcels that have very specific building pads that will help ensure the preservation of the trees. Also, Outlot 3, which is immediately along Martin Drive, is reserved for a future church site.

**Preliminary Plats**

During 2006, the Common Council approved 4 preliminary plats, which is down from 7 in 2005.

**Extraterritorial Plats**

During 2006, the Common Council approved 2 extraterritorial preliminary plats and they re-approved 1 extraterritorial preliminary plat, but they did not approve any extraterritorial final plats. In 2005 the City did not approve any extraterritorial preliminary or final plats.

**Condominium Plats**

During 2006, the Common Council approved 1 commercial condo project totaling 7 commercial units. There were no residential condo plats approved by the City in 2006. In 2005 there was 1 approved condo project containing 48 units and 4.22 acres.

**Lakewood Commercial Development (B-2 & B-2/OPD)**

- 1 Building Consisting of 7 Commercial Units
- Commercial Condo Conversion

This development is located on Racine Avenue, about a block or two north of Janesville Road. This development was originally approved by the Planning Commission on November 20, 2001. The building/site was

originally developed as a single owner building with 7 tenant rental units. The owner of the development decided to convert the building into commercial condo units. This would mean that tenants would now own their own unit(s).

In 2006 the Common Council did not approve any apartment to condo conversions. This could be due to the fact that some of these conversions can be done through the recording of appropriate documents with the Register of Deeds, without formal City approval. In 2005 the City approved 3 apartments buildings to be converted into condos. This created 24 additional new condo units.

**Certified Survey Maps (CSM)**

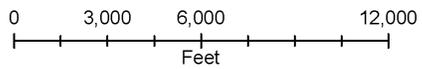
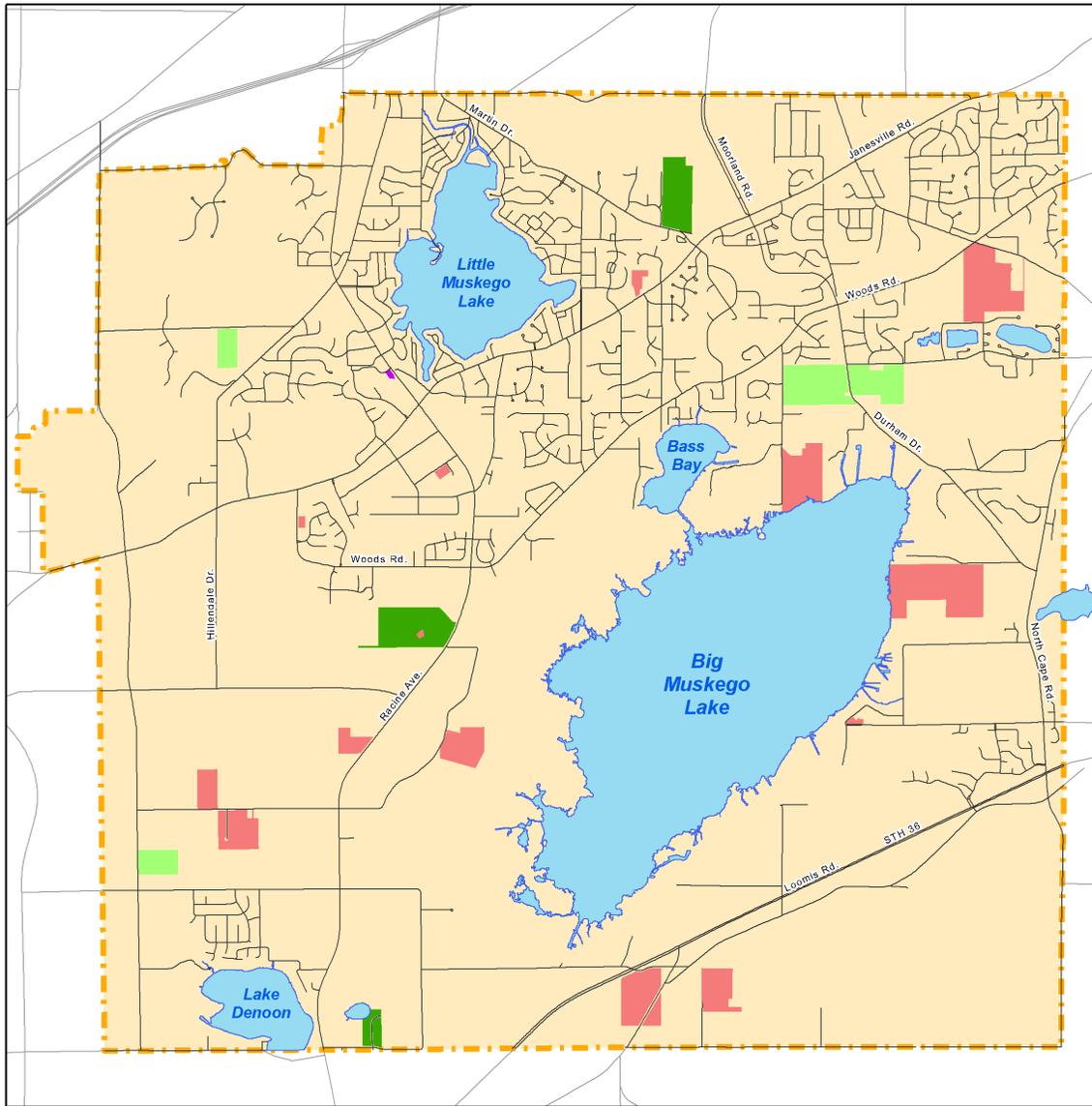
- During 2006, the Common Council approved 14 Certified Survey Maps creating 17 new lots (33 total lots including the parent parcels). This is in comparison to 2005 when the City approved 18 Certified Survey Maps creating 33 new lots (53 total lots including the parent parcels). In 2006 the City also re-approved 2 additional CSM’s and they denied 1 CSM.

CSM Approvals (2004-2006)			
NOTE: These are based upon final approvals from the Common Council. *These totals do not include any extraterritorial, re-approved, and/or denied CSMs.			
Year	Total CSMs Approved	Total New Lots	Total Lots Including Parent Parcels
2004	20	27	48
2005	18	33	53
2006	14*	17*	33*

Table 6

- During 2006, 5 Extraterritorial CSMs between the Towns of Vernon and Waterford containing a total of 11 lots (including parent parcels) were approved. This is in comparison to 2005 when the City also approved 5 Extraterritorial CSMs containing 13 lots.

### Map 1 2006 Development and Land Divisions



#### Legend

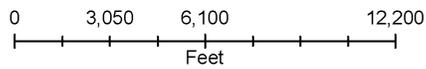
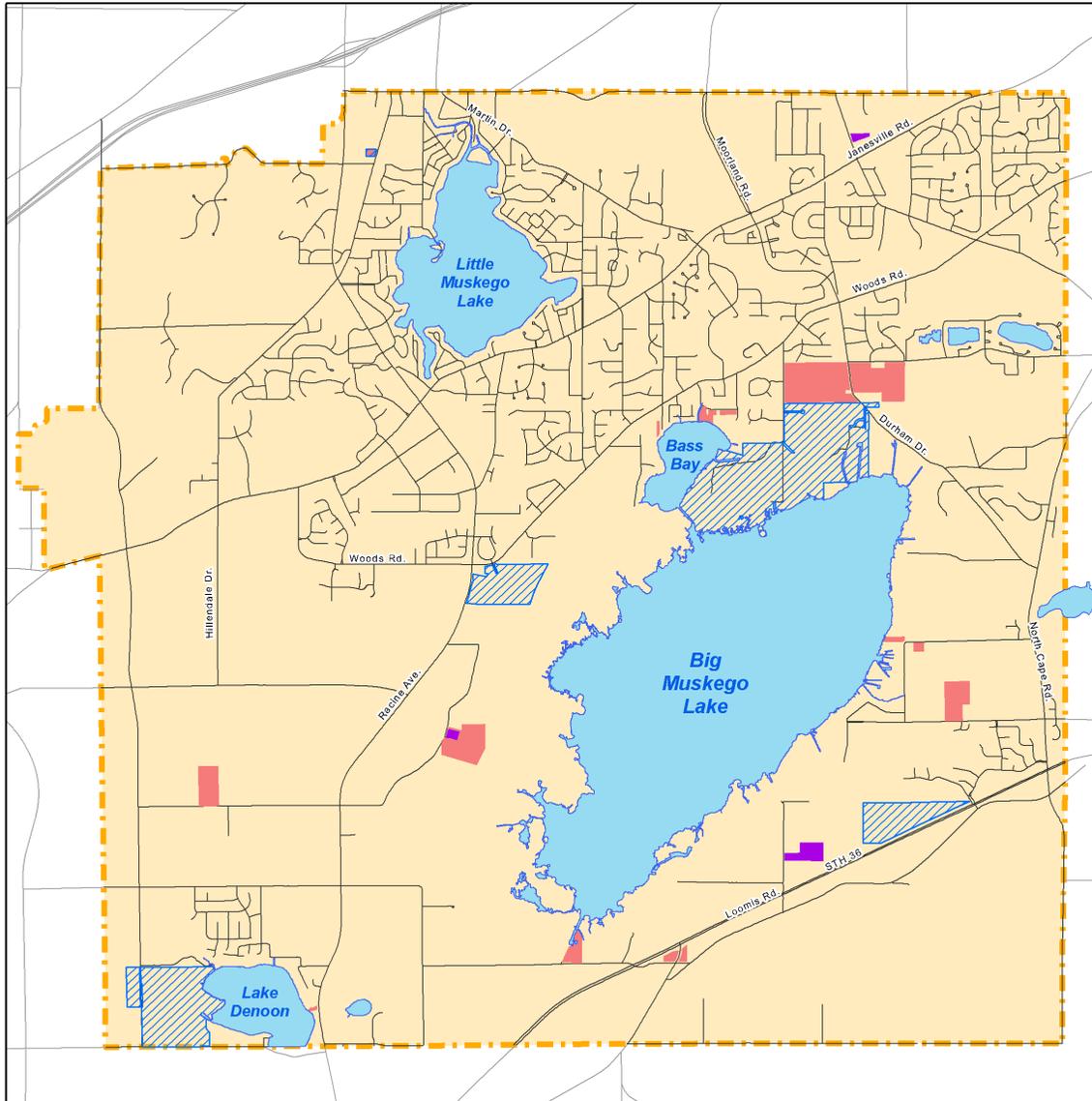
-  Roadways
-  Municipal Boundary
-  Lakes
-  CSM
-  Condo
-  Preliminary Plat
-  Final Plat

## Rezoning, 2010 Plan Amendments, and Conditional Use Grants

In 2006 the number of approved Rezoning and Land Use Amendments dropped compared to the prior year (See Map 2). There was an increase in the number of rezonings that were denied or withdrawn this year as well. Here is a look at how the uses/requirements of land changed in Muskego during 2006:

- *8 Approved Rezoning in 2006 out of 15 Requests* - The majority of the rezonings that occurred this year were for the purpose of a land division of some type. There was 1 specific rezoning initiated by the City to remove the OLR overlay district on parcels that did not need the zoning overlay. This involved 16 parcels. In comparison to 2005, there were 13 rezonings that occurred in 2005. There were 4 rezoning requests this year that were withdrawn and 3 that were denied. Most of these denials/withdrawals have occurred due to the Elected Officials and residents holding more closely to the adopted 2010 Comprehensive Land Use Plan.
- *5 Approved Comprehensive 2010 Plan Amendments in 2006 out of 10 Requests* - The City maintains an adopted Comprehensive Plan to guide the use of development in the City of Muskego. At times, this plan needs amending, usually in conjunction with rezonings, in order to allow certain land uses and/or densities. Amendments are warranted as land use patterns change over time due to roadway or other infrastructure improvements. The City itself initiated 4 of the approved Comprehensive Plan amendments in 2006. The Aldermen re-examined 4 areas of the City that they believed needed possible revisions. Each of these Comprehensive Plan amendments included numerous parcels. There were 3 Comprehensive Plan amendments that were withdrawn and 2 that were denied. In comparison to 2005, there were 4 Comprehensive 2010 Plan amendments that were approved in 2005.
- *3 approved (new or amended) Conditional Use Grants, 1 approved Conceptual Conditional Use Grant, 1 denied Conditional Use Grant, and 1 Conditional Use Grant Renewal in 2006* - Conditional uses are approved by the City's Plan Commission to allow other types of land uses on properties where it is believed the use needs additional or special review and/or requirements (such as annual reviews) in order to appropriately govern them. Conditional uses were approved or amended this year for a mini-warehouse facility, a guesthouse, and the allowed continuation of a two-family structure. The Conceptual approval was for a gas station, the denial was for a gas station, and the renewal was for an asphalt plant. In comparison to 2005, there were 5 approved Conditional Use Grants, 1 denial, and 1 renewal that occurred in 2005.

### Map 2 Zoning, 2010 Land Use, & CUG Changes



#### Legend

- Roadways
- Municipal Boundary
- Lakes
- 2010 Land Use Changes
- Zoning Changes
- CUG Changes

## Housing

The Planning Department is highly involved in the building permit process for residential and commercial/industrial projects. Each permit is examined for conformity relating to a variety of aspects including setbacks, open space, height, floor area, Plan Commission approvals (if applicable), and other Zoning/Planning related items.

In 2006 there were 133 single-family new home permits, which is down from the 151 single-family new home permits in 2005. We also saw a decrease this year within the commercial/industrial sector. In 2006 we had 19 permits for commercial and industrial alterations/additions and 2 permits for commercial and industrial new construction. In 2005 we had 29 permits for commercial and industrial alterations/additions and 10 permits for commercial and industrial new construction. (See Map 3 for Building Permit Info).

### 2006 Housing Statistics

- Average assessment for homes as of January 1, 2006 = \$263,300\*  
Average assessment for homes as of January 1, 2005 = \$261,000\*  
Average assessment for homes as of January 1, 2004 = \$193,400\*  
(There was a re-evaluation done in 2005)
- Average sale of a single-family residence for 2006 = \$287,300\*  
Average sale of a single-family residence for 2005 = \$279,300\*  
Average sale of a single-family residence for 2004 = \$278,200\*
- Reported average valuation for new homes in 2006 = \$255,138\*\* for 133 new homes, in 2005 there were 151 new home permits with an average reported value of \$233,958\*\*, in 2004 there were 182 new home permits with an average reported value of \$210,046\*\*, and in 2003 there were 178 new home permits with an average reported value of \$201,160\*\*  
(These values do not include land values)
- Commercial Alterations/Additions average valuations in 2006 = \$81,900\*\* for 19 permits  
Commercial Alterations/Additions average valuations in 2005 = \$71,051\*\* for 29 permits
- Commercial New Construction average valuations in 2006 = \$615,000\*\* for 2 permits  
Commercial New Construction average valuations in 2005 = \$516,500\*\* for 10 permits

\*As determined by the Assessors Records.

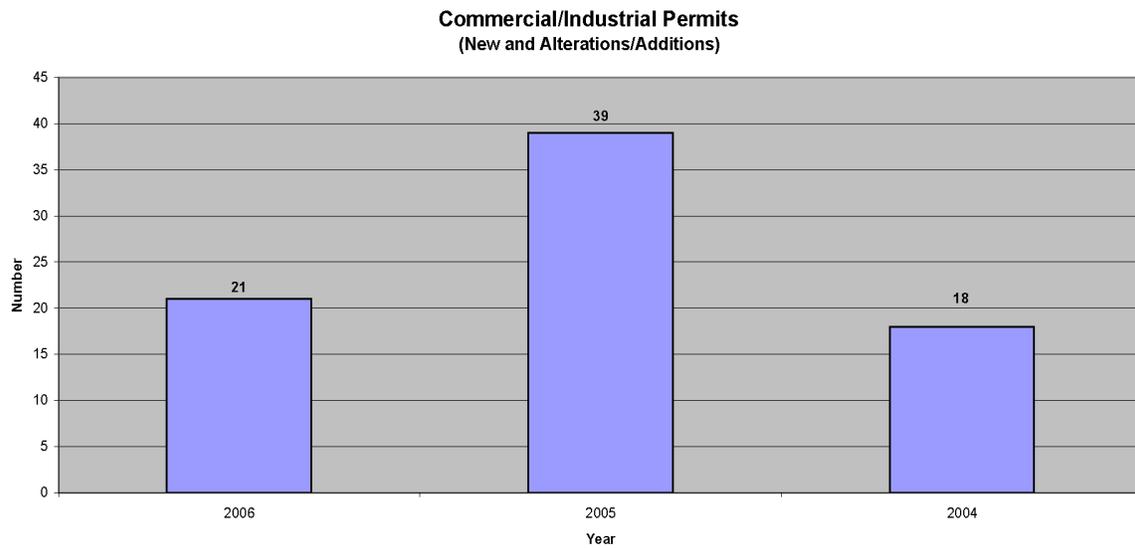
\*\* As determined by the Building Permit reported values.

The following information was taken from the information entered on the building permit applications.

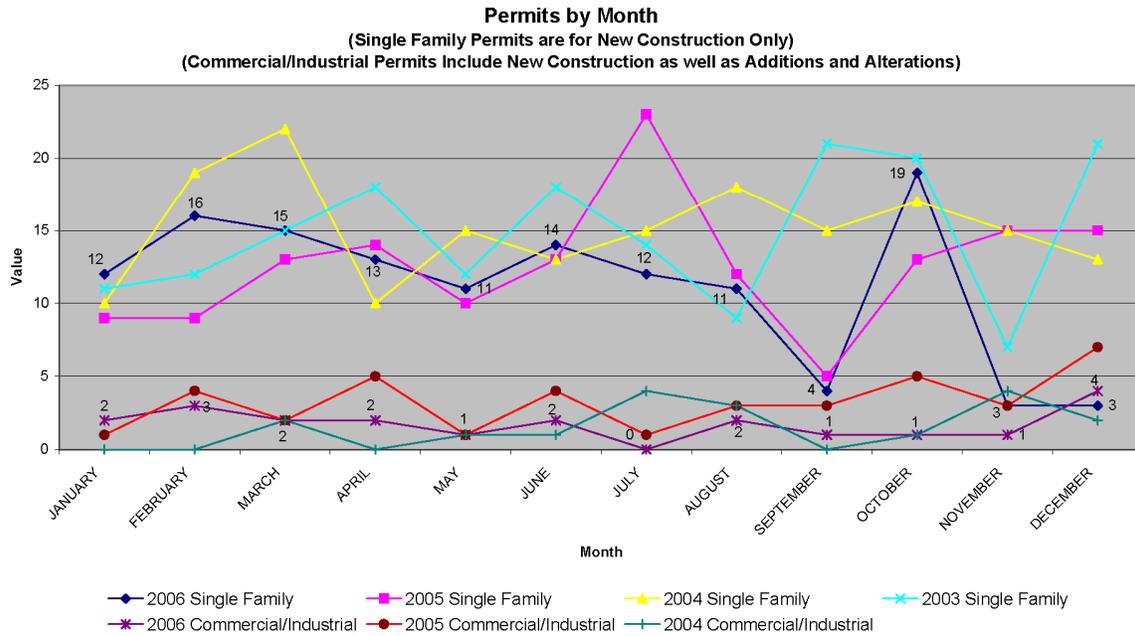
**Graph 1 - Residential New Construction by Year (2003-2006)**



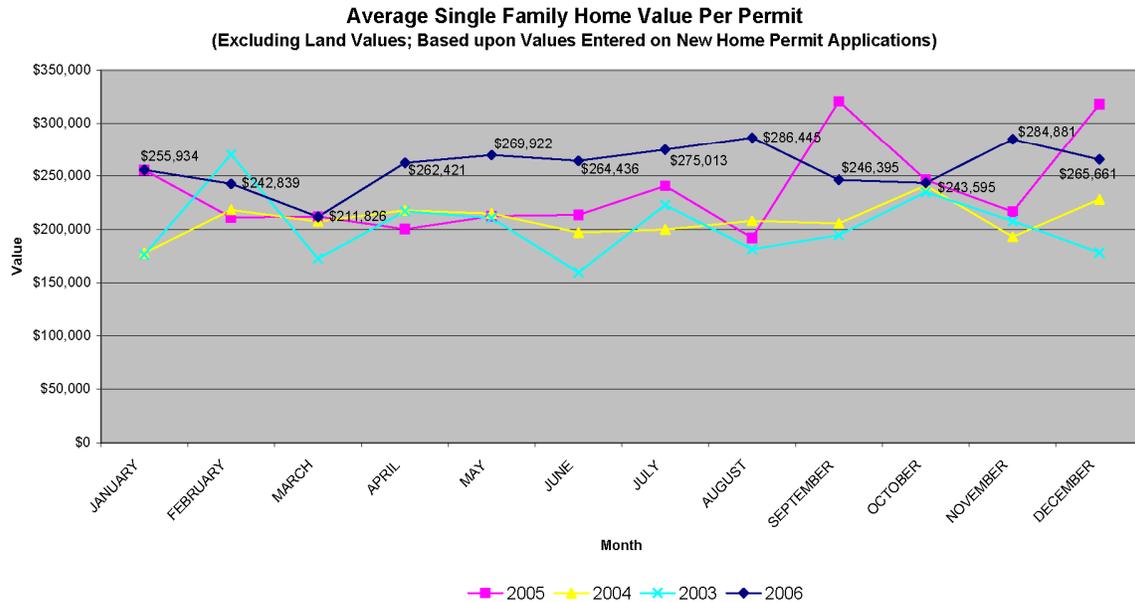
**Graph 2 - Commercial/Industrial Permits by Year (New and Additions/Alterations) by Year (2004-2006)**



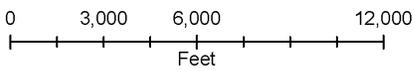
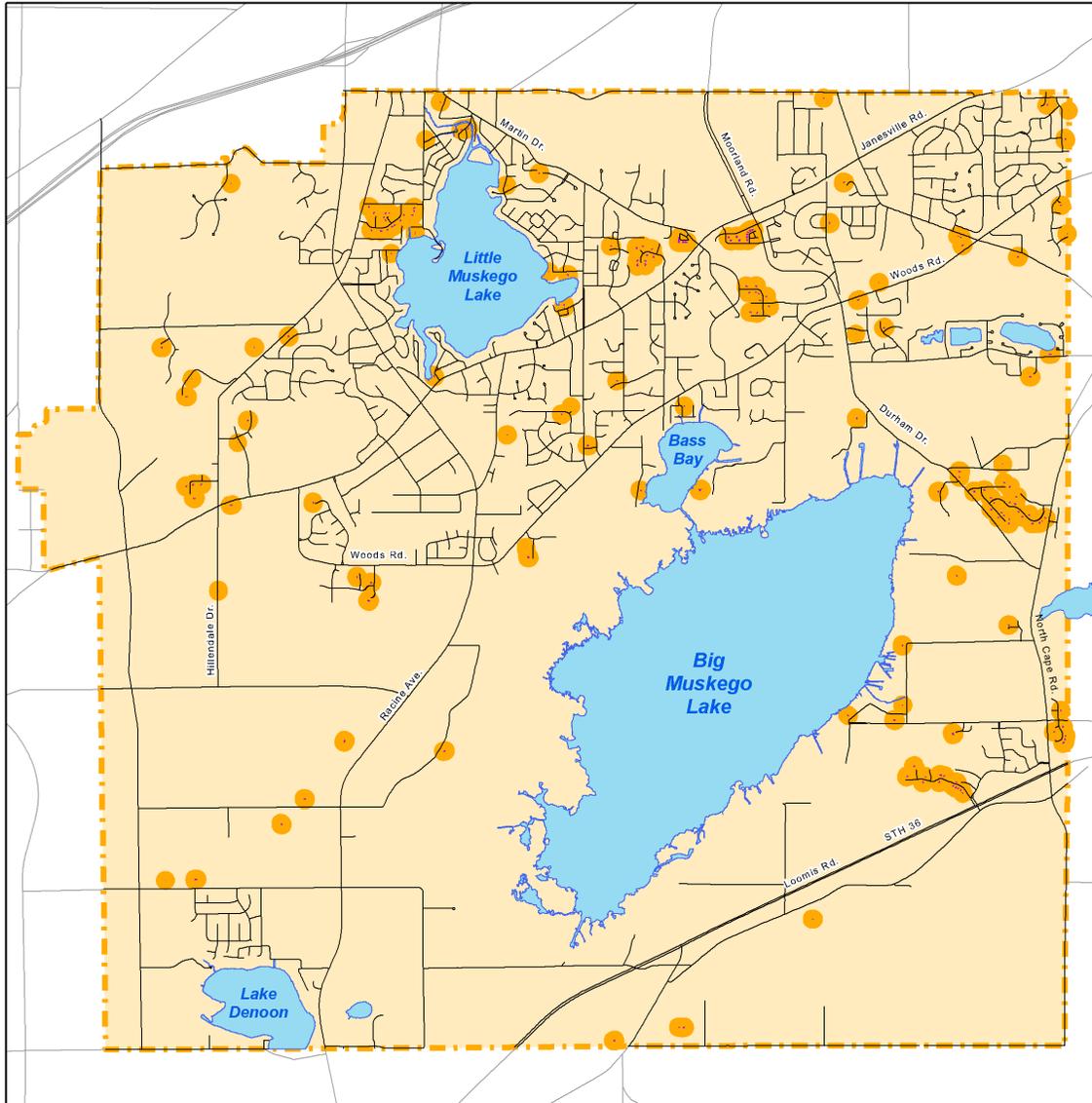
**Graph 3 - Month-by-Month Total Permit Numbers (2003-2006)**



**Graph 4 - Month-by-Month Average Single Family New Home Values (Excluding Land Values) (2003-2006)**



### Map 3 2006 New Construction



Note:  
The "Built Areas - 300' Structure Buffer"  
is a representation of development nodes.

Also, the structures shown on this map  
are an approximation. A few of the  
structures may have been built prior to  
2006, but not entered into our GIS  
system until 2006.

#### Legend

-  Roadways
-  Municipal Boundary
-  Lakes
-  2006 New Construction
-  Built Areas - 300' Structure Buffer

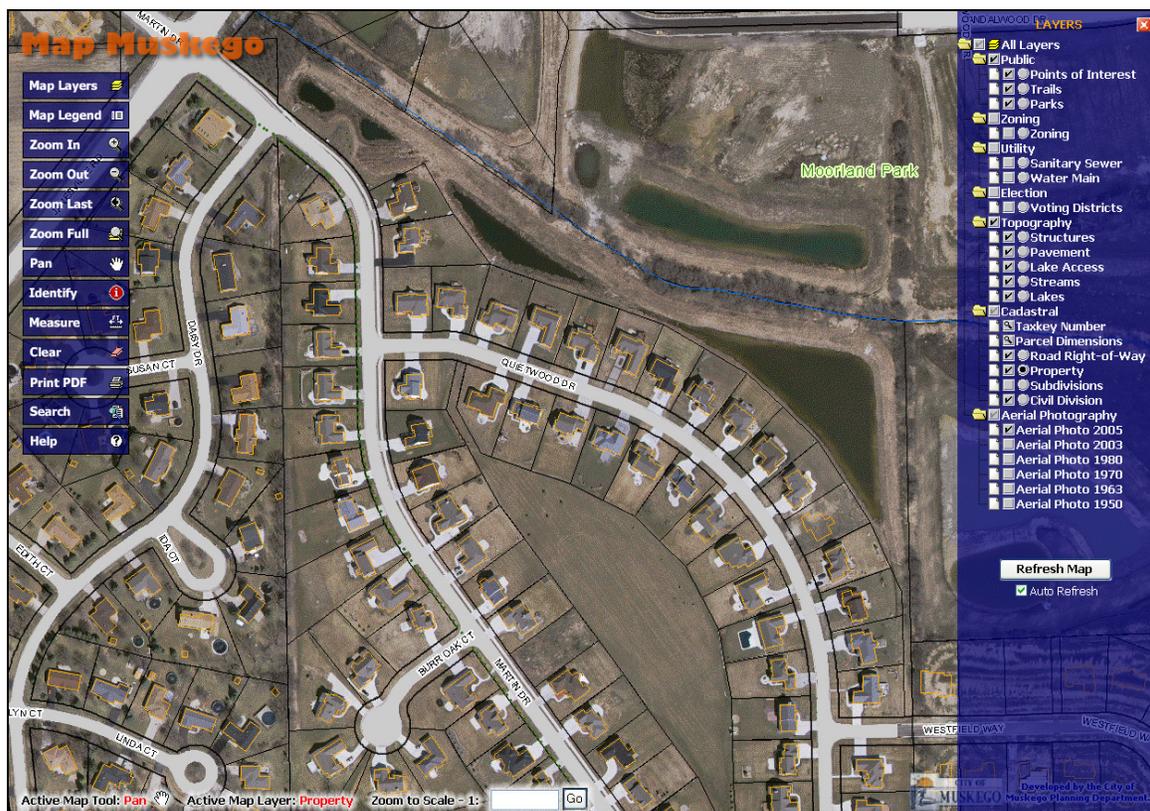
## Geographical Information System Activities

In 2006, the City of Muskego Planning Department made significant strides to strengthen the GIS enterprise infrastructure and look at new ways of better facilitating the needs of City Departments and the public.

### MapMuskego

MapMuskego, the City's interactive mapping website, continues to provide City Departments and the public with land information critical in making more informed decisions.

In the fall of 2006, development of a newly redesigned MapMuskego interactive website began. The impetus for this redesign was based on City staff and public input, as well as research and development efforts of GIS staff. The new website has functionality that is developed utilizing web technologies such as AJAX, Flash, and Java. The goal of this website redesign was to maximize the map viewing area to full screen width and height, provide a more friendly user experience, and implement new custom tools tailored to meet the needs of City Departments. Development and testing of this new website will continue into early 2007, with a completion and release date of Spring 2007.



*The new MapMuskego prototype website.*

Web statistics indicate that MapMuskego.com averages 4,500 hits per day. Since its launch in March 2005, the website has had a total of 2,379,189 hits and 33,058 visitors. Approximately 82% of visitors are from the general public and 19% are internal City staff.

## **GIS User Survey**

A survey questionnaire on MapMuskego usage and the City's GIS program was sent out to all City Departments in 2006. User responses indicated the majority of City Staff used MapMuskego over other GIS applications, such as the Waukesha County Map Website, as their GIS application of choice. Furthermore, when GIS information is needed, City Staff relies upon the MapMuskego Interactive Mapping system the most, followed by information obtained from paper maps. The Standard PDF Maps, Public Interactive Mapping, and Department Staff Interactive Mapping websites are all used frequently at relatively the same rate by City Staff. The General Information Site was the most often used of the MapMuskego interactive websites.

City Staff felt that more frequent updates of information and providing more tutorials on how to use MapMuskego are two areas that could be improved upon. In response, City GIS Staff used the results, suggestions, and comments that were compiled from the survey to further customize and modify features in all of the MapMuskego interactive websites. Ultimately, the input from the survey played an important role in the development of the "new" MapMuskego.

## **GIS Training - Staff and Public**

GIS staff conducted training sessions on how to use MapMuskego throughout 2006. These sessions were taught to interested staff in City Departments and at the Library. Public training sessions were also organized.

A "How To Use" pamphlet for MapMuskego was distributed to all City and Library staff. The pamphlets provided instructions on how to navigate the MapMuskego websites. Free copies were provided to the general public at the Planning/Engineering counter and at the Library.

## **Maps Created and Updated**

A wide variety of maps are created and maintained by GIS staff for the City. Almost every department in the city has customized mapping needs. Some examples of departmental maps are as follows:

- Assessor: Cadastral, Revaluations, and Lake Districts
- Chamber of Commerce: City Street and Points of Interest
- Election: Polling Locations, Ward, and Aldermanic Districts
- Engineering: Sewersheds, Capacity Areas, and MMSD

- Parks: Trails, Future Park Locations, and Lake Access Maps
- Planning: Zoning, Plan Commission & Public Hearing Exhibits, and Cadastral Maps
- Public Works: Hydrant Flushing, Sewer Laterals, System Areas, and Snowplow Route Maps
- Urban Forestry/Conservation: Conservation Priorities, Rx Burn Areas, Prairies, Wetlands, and Woodlands
- Police: Street Maps, Dispatch, Neighborhood Watch, and Custom Incidents
- Fire: District/Station Boundaries and Street Maps
- Other: General public requests (e.g., aerial photograph maps of properties)

## **ArcSDE**

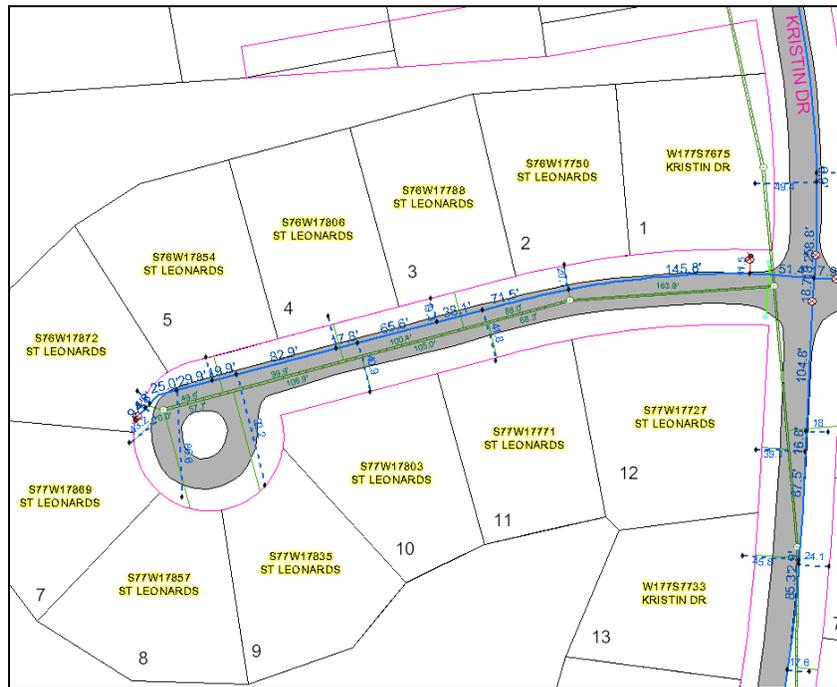
ArcSDE is the spatial data repository where all GIS data sets are maintained for the City of Muskego's GIS program. ArcSDE works in conjunction with Microsoft SQL Server 2000 database management system, to facilitate spatial data requests throughout City Departments and the World Wide Web. ArcSDE has been a key component in the establishment of an enterprise wide GIS system at the City.

In 2006 significant improvements were made to the configuration of ArcSDE. A new single database model was implemented which replaced the existing multiple database model. This involved creating new spatially independent databases that communicate with clients on dedicated communication ports, opposed to multiple database models in which all databases are dependent on one spatial database and share one communication port. Production, Publication, and Image databases were created to store all spatial data sets. The new database model has also allowed the GIS program to implement the Production/Publication data management strategy. This data management strategy isolates all GIS maintenance and administration tasks to the Production database, while all other City and World Wide Web spatial data requests are made to the Publication database. Nightly automation scripting routines were then developed to synchronize the Production and Publication databases, analyze and tune ArcSDE database processes, and automate data dissemination. This data management strategy has greatly improved data accuracy, efficiencies in system administration, and reliability. Other 2006 improvements focused on performance, tuning, organization, and administration.

## **Storm and Sanitary Geodatabase Model**

Storm and Sanitary Sewer geodatabase models were added to the ArcSDE spatial data repository in 2006. Storm and Sanitary Sewer utility data was collected, classified, and loaded into the respective geodatabase schemas, which were developed in conjunction with the City and consultant firm Ruckert-Mielke.

Storm and Sanitary points, lines, and polygon features were analyzed to determine how they best fit into the new geodatabase models. A geometric network was built within each geodatabase to allow feature relationships to be maintained based on connectivity rules that have been established between them. The geometric network allows for more efficient maintenance workflows and provides the ability to perform flow analysis and advanced system modeling within the GIS system.



## Planimetric Mapping

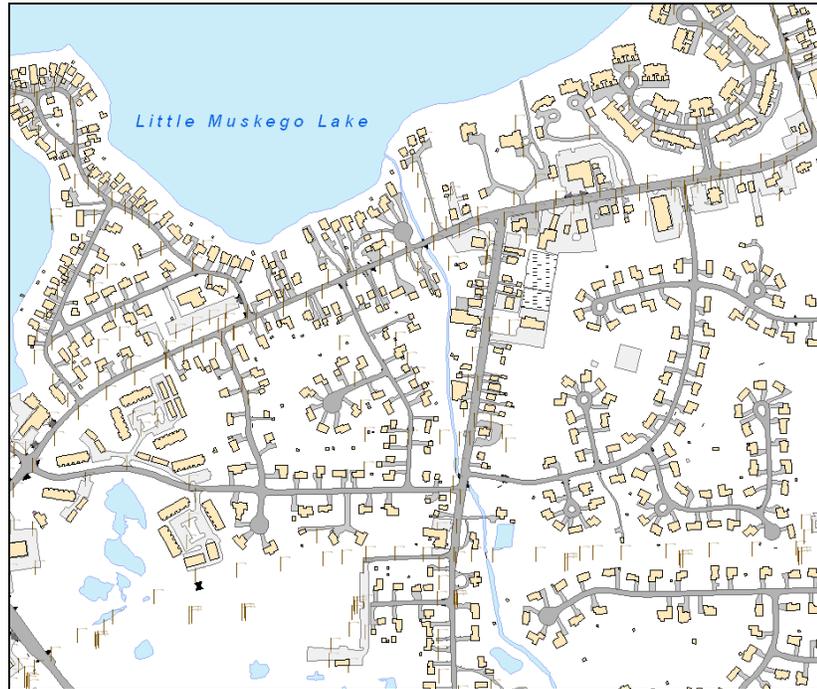
Prior to 2006, the City had a limited number of planimetric feature data from Waukesha County's Planimetric Mapping project in 1999-2000. It was decided that it would greatly benefit the City GIS program to update the existing features and map new features.

Planimetric features are GIS data elements that are digitized from orthophotography using a stereoplottor. These features can include topography, structures, fence lines, water boundaries, utility poles, trails or any feature that can be identified from orthophotography. Planimetric data is important to GIS analysis and can provide better, more accurate maps for many different departments in the City.

Ayres & Associates, Inc. was awarded the contract to perform the planimetric mapping services. Mapping of Muskego's planimetric features began in January of 2005, with completed project deliverables received by the City in December of 2006.

Planimetric features mapped include:

- Bridges
- Buildings
- Culverts
- Driveways
- Tanks/Silos
- Gravel Areas
- Paved Areas
- Paved Roads
- Poles
- Water Body
- Water Line



## ArcGIS 9.2

Muskego's GIS software, ArcGIS, was upgraded to version 9.2 in the fall of, 2006. The desktop software upgrade will provide GIS staff with new functionality such as enhanced cartographic finishing tools, graphic and temporal visualization, and improved CAD support. Geodatabase management strategies were also improved with the introduction of high-precision coordinate storage, improved raster management, and replication.

This upgrade includes the new software product called ArcGIS Server, which will provide the City GIS program with new opportunities in integrated server and web based GIS application development. ArcGIS Server applications will allow users to perform web based geoprocessing tasks on City GIS data sets.

Overall, this upgrade will enhance the cartography of current and future hardcopy mapping products, increase efficiencies in data management workflows and provide new GIS application development opportunities.

## Easements & Structures

City GIS staff continued to maintain platted land easements and structure areas in 2006. Using Final Plat and permit data, these features were mapped using ArcMap editing tools in geodatabase format. The edits were then imported into Muskego's ArcSDE spatial database.

## GIS Day

The City of Muskego celebrated its 6th annual National GIS Day by creating and displaying new versions of GIS Day information posters at a kiosk in the Muskego Public Library during National Geography Week.

**gis day**

Please join the City of Muskego in celebrating GIS Day  
November 18, 2006

**PRINCIPAL SPONSORS**  
 The National Geographic Society  
 The Association of American Geographers, AAG  
 University Consortium for Geographic Information Science, UCGIS  
 The Library of Congress  
 U.S. Geological Survey, USGS  
 Hewlett-Packard  
 Sun Microsystems  
 ESRI

**ASSOCIATE SPONSORS**  
 American Congress for Surveying and Mapping, ACSM  
 American Geographical Society  
 American Planning Association, APA  
 Association of Canadian Map Libraries and Archives, ACMLA  
 Center for International Earth Science Information Network, CIESIN  
 ESRI Business Information Solutions, ESRI BIS  
 Geospatial Information & Technology Association, GITA  
 Map and Geography Round Table, MAGERE, of the American Library Association  
 The Nature Conservancy  
 National Council for Geographic Education, NCGE  
 National Center for Geographic Information and Analysis, NCGIA  
 National States Geographic Information Council, NSGIC  
 Open GIS Consortium, Inc.  
 Urban and Regional Information Systems Association, URISA  
 Wildlife Conservation Society  
 World Wildlife Fund, WWF

For more information on GIS Day™ or to locate an event in your area, visit  
[www.gisday.com](http://www.gisday.com)

©2006 ESRI. All rights reserved. ESRI, the ESRI logo, GIS Day, and www.gisday.com are trademarks, registered trademarks, or service marks of ESRI. The United States, the European Community, or other jurisdictions, the ESRI Day website, ESRI, the ESRI logo and website have an ESRI logo or registered trademark that supports ESRI's mission.

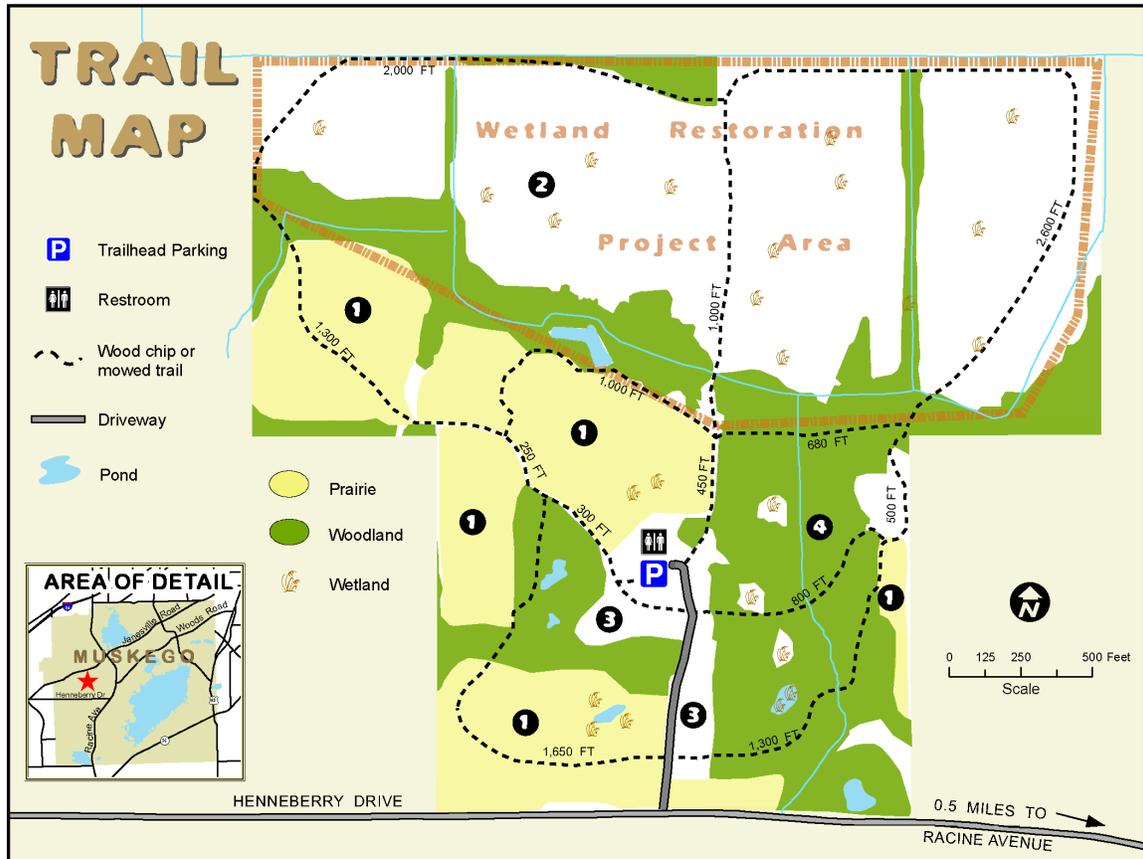
## GIS Staff

In July of 2006 GIS Coordinator Emily Champagne resigned from the City of Muskego to pursue other career opportunities. A formal hiring process then began to fill the vacant GIS Coordinator position. After extensive interviews were conducted, John Wisniewski was hired as the new GIS Coordinator.

John comes to the City with extensive GIS experience within the context of state, county, and municipal governments. He graduated from the University of Wisconsin Milwaukee with a Bachelors Degree in Environmental Sciences. Previously, John has held a GIS Analyst/Programmer position with the Walworth County Information Systems Department. His experience includes, GIS program administration, programming, server and database administration and data maintenance and analysis. He will make a welcome addition to the Planning Department.

## Engel Conservation Area Mapping Project

In July of 2006, the City of Muskego opened its largest conservation site, the Engel Conservation Area. This 150-acre conservation area includes self-guided nature trails through woodlands, prairies, and wetlands. City GIS staff played an integral role in the development of trail maps and brochures to be used by visitors to Engel. These maps and brochures include suggested routes for the self-guided nature trails, as well as locations of selected points of interest within the Conservation Area.



Engel Conservation Area Map

## ESRI Wisconsin User Group

For the 6th year in a row, City GIS staff has attended the EWUG Conference. This annual conference, held in Appleton provided GIS staff an opportunity to interact with other GIS professionals and to better GIS and ESRI product knowledge. Conference presentations attended included; ESRI 9.2 technology, GIS web development, GPS, utility modeling, and E911 integration.

## **Wisconsin Land Information Association**

Muskego continued its membership in the Wisconsin Land Information Association (WLIA). Membership in the WLIA has allowed City GIS staff to actively participate in regional and local land information modernization and development efforts.

The City won 2nd place in the Interactive Web Mapping category for MapMuskego, as well as 1<sup>st</sup> place in the Orthophoto-Based Map category, at the 2006 WLIA Annual Conference in Wisconsin Dells.

## **Southeastern Wisconsin ESRI Technical Users Group**

The Southeast Wisconsin technical users group consists of GIS professionals that works within the context of county or municipal GIS programs, that meets on a regular basis to discuss and analyze technical aspects of ESRI GIS software. The City GIS staff has actively participated in this group since it was established in 2005. This group has provided a forum for City GIS staff to share technical ideas, concepts, and experiences dealing with ESRI software.

## **Waukesha County Land Information Technical Working Group**

City staff has continued to actively participate in the Waukesha County Land Information Technical Working Group. This group, coordinated by the Waukesha County Land Information System Division, is comprised of GIS professionals from local municipalities, SEWRPC, and Waukesha County. This group works collectively to design a common automated mapping and land information system so as to ensure economy, efficiency, and ready exchange of data.

## **Conservation and Forestry Activities**

### **Conservation**

The City continued to make progress in the preservation of open spaces and the management and development of conservation lands in 2006. Planning staff and the Conservation Commission reviewed several developments proposals that could impact woodlands and other open spaces in the City. Collectively we were able to work with these developers to preserve areas of environmentally significant lands. Work continued to manage the vegetation and habitat of city-owned lands and develop passive recreation opportunities for the community.

### **Engel Conservation Area**

Engel Conservation Area was formally opened at a dedication on July 15, 2006. This 150-acre site is being developed through a combination of community volunteer efforts, grant program assistance, and the work of city staff. Several Eagle Scout projects were completed to provide trails, signage, and habitat restoration. A volunteer helped construct a monument sign at the Henneberry Drive entrance. Planning Department staff worked to complete several trail sections and provide interpretive signage and displays for the site opening. The Public Works Department created a parking area and improved the entrance drive. The earthwork to restore 67 acres of wetlands was completed through USDA's Wetlands Reserve Program. A diverse variety of native wetland plant seed will begin germinating next spring. Invasive shrubs were also removed from several portions of the site.



*Entrance Sign at Engel Conservation Area*



*Prairie Plantings at the Engel Conservation Area*



*Creation of Trails at the Engel Conservation Area*

### **Land Acquisitions**

The City acquired a land dedication from the Woodland Creek Development to add seven acres of wetlands to the northeastern side of the Engel Conservation Area. Plans are underway to restore the wetland function and plant community of the site through the US Fish & Wildlife Partners for Wildlife program. Staff has also been working with the Wisconsin DNR to assist in acquisition of lands within the Big Muskego Lake Wildlife Area project boundary.



*Shooting Star in bloom near boardwalk trail in Vets Park.*

### **Prescribed Burns in 2006**

Prescribed fire is recommended for most of the city-owned conservation lands to restore native habitats, reduce wildfire hazards, and control invasive species. Prescribed burns were conducted at Denoon Park, Blattner Woods, Bluhm Park,

Luther Parker Cemetery, and the Engel Conservation Area in 2006. Burn sites collectively totaled about 40 acres and showed significant success in controlling weeds and woody invasive plants. The system to notify adjacent property owners regarding prescribed burns again worked well. Some residents called for further information but there were essentially no complaints regarding the burn operations.

## **Urban Forestry**

The urban forest consists of street trees, park trees, natural woodlots, and everywhere else trees grow in the City. Highlights for Muskego's 2006 urban forestry management:

- Oversaw the installation of trees for the Janesville Road and Moorland Road street and boulevard tree plantings.
- Pruned recently planted street and park trees.
- Investigated and identified hazardous trees and planned for their removal.
- Monitored Gypsy moth reports in the City.
- Reviewed commercial & residential landscape plans and subdivision street tree plans.
- Muskego received Tree City USA designation for the seventh consecutive year.

## **Lakes**

Muskego is fortunate to have three major lakes and several other surface waters within its boundaries. Healthy lakes add to the quality of our lives. Through the year, the Conservation Coordinator fielded numerous citizen inquiries regarding lake ecology and shoreline development issues – serving as a local source of information and a liaison to the DNR. Projects to control invasive plants such as purple loosestrife and Eurasian Water Milfoil were also conducted.

### **Water Quality of Muskego's Major Water Bodies**

Water quality data were collected on five sampling days for Lake Denoon, Little Muskego Lake, Bass Bay, and Big Muskego Lake. Water quality data collected in 2006 generally showed that for most parameters measured, all of Muskego's lakes sustained their water quality from previous years.

Lake Denoon, over the past few years, has showed improved water transparency (clarity) than readings taken in the early nineties. Most of the other parameters have remained constant. Unfortunately invasive zebra mussels were found in the lake this year.

Little Muskego Lake continued to have remarkably good water transparency readings that began around 2000. However this improvement is a mixed blessing as the invasion of zebra mussels (with their filter feeding habits) is the primary reason for this improvement. With clearer water, rooted aquatic plants can grow more prolifically – subsequently Little Muskego Lake has had a greater need for nuisance weed control for plants like Eurasian Water Milfoil.

For the second consecutive year, ospreys successfully nested on Big Muskego Lake with two young born sometime in early June. Ospreys are a threatened species that, until last year, hadn't reproduced in Waukesha County in several decades. Improved water quality



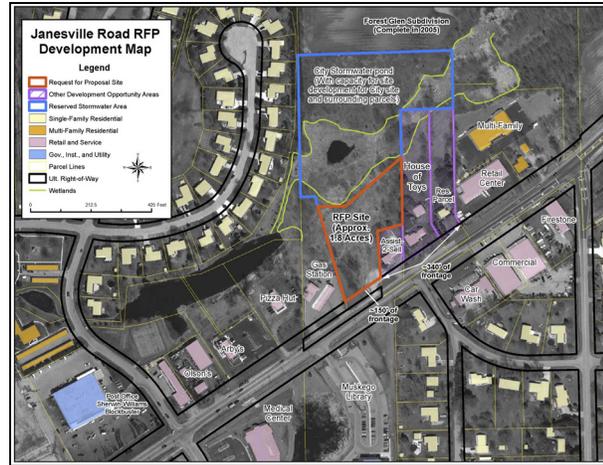
*One of two young ospreys hatched in nesting platform along Big Muskego Lake's western shore.*

and habitat conditions continue since the rehabilitation project of 1996. However it is likely that through invasion by carp and other environmental factors conditions could deteriorate in the future. Plans are underway to create a settling basin near the outlet dam to help settle solids from water pumped in any future lake restoration efforts requiring a water level drawdown. The Conservation Coordinator, on behalf of the Big Muskego Lake District, is working with DNR and Wind Lake representatives to design and acquire funding to construct this facility.

## Economic Development Activities

### Janesville Road – Request for Proposal (RFP)

In the early 2000s, the City bought a 5-acre property along Janesville Road in order to build a future regional stormwater pond due to drainage problems in the surrounding vicinity. The City completed that regional pond in 2005. Upon completion it was found that only the northern half was required for the stormwater pond and that area directly fronting Janesville Road could be used for development potential. Planning Department staff went to the City Council to get approval to allow the Community Development Authority (CDA) to have the development rights to the developable portion of the lands. The intention was to allow the CDA to orchestrate a Request for Proposal (RFP) that hopefully would produce a quality development meeting the design guides and redevelopment plans that were in place governing the parcel. In April 2005 the Common Council did allow the CDA to begin an RFP process.



During 2006, the actual transfer of the property to the CDA was completed and the CDA began working with the developer that won the RFP. The development is located in the City's Tax Incremental Finance District #8 and certain monies are to be allocated to the developer in order to make the project a success, while enabling the development to contribute to the tax base in the area.

A mixed-use development concept was approved that included an 8,500 square foot retail/office structure along Janesville Road and a 31-unit condominium building located behind. The development utilized many redevelopment District and Traditional Neighborhood Development principles including having the retail/office structure located close to Janesville Road (10-foot setback) with parking all located behind. Connections were made to future Janesville Road walking path and cross access easements were provided in hopes of connecting to redevelopment to the east and west in the future. The structures utilized

quality architectural materials and elements. The development will ultimately provide the downtown with a direction of excellent neighborhood planning in a fast moving downtown area. Finalization of the plans and zoning is anticipated to take place in early 2007. With time, the retail/condo mixed use development should be a catalyst for the downtown, while also aiding in paying off the existing TID #8 in a faster pace.



*Parkland View Commercial Rendering*



*Parkland View Condominium Rendering*