TOWN OF RIB MOUNTAIN
Where Nature, Family & Sport Come Together

www.townofribmountain.org

3700 North Mountain Road
Wausau, Wisconsin 54401
(715) 842-0983
Fax(715) 848-0186

PLAN COMMISSION

OFFICIAL NOTICE & AGENDA

A meeting of the Town of Rib Mountain Plan Commission will be held on **Wednesday, June 22nd, 2016; 6:30 P.M. at 3700 North Mountain Road, Town of Rib Mountain Municipal Center**. The Town Board may attend for purposes of gathering information. Subject matter for consideration and possible action follows:

1.) Call to Order

2.) Roll Call

3.) Minutes
   a. **Approval of minutes of the 6-8-2016 Plan Commission meeting.**

4.) Certified Survey Map Approvals
   a. **Thomas Schuette, owner, requesting Certified Survey Map approval for the property addressed 7401 Bluebell Lane, parcel #34.208.000.031.01.00. Docket #2016-31.**

5.) Old Business
   a. **Discussion on possible amendments to RMMC Section 17.056(8)(x) – Detached Energy Systems, related to solar panels. Docket #2016-25.**

   b. **Discussion on possible amendments to RMMC Subchapter X – Signage Regulations related to electronic message signs. Docket #2016-06.**

6.) Correspondence/ Questions/Town Board Update:

7.) Public Comment

8.) Adjourn

TOWN OF RIB MOUNTAIN
PLANNING COMMISSION MEETING
June 8, 2016

Acting Chairman Harlan Hebbe called the meeting to order at 6:30 pm. Other Plan Commission members present included Jim Hampton, Ryan Burnett, Christine Nykiel, Laura McGucken and Jay Wittman. Tom Steele was excused. Also present were Community Development Director, Steve Kunst, and Building Inspector / Assistant Zoning Administrator, Paul Kufahl.

MINUTES:

Motion by Jim Hampton, seconded by Christine Nykiel to approve the minutes of the May 25, 2016 Plan Commission meeting, as presented. Motion carried 5-0.

Public Hearings:

a. *Finishing Touch Signs, agent, requests conditional use approval for a changeable message sign at the property addressed 4301 Rib Mountain Drive, Parcel #34.112807.011.012.00.00, per RMMC Section 17.213(1)(c-1) – Changeable Message Sign. Docket #2016-26.*

Applicant rescinded their Conditional Use application. No action was taken on the request.

NEW BUSINESS:

a. *Pre-application discussion regarding potential rezoning and subdivision of parcel #34.162807.003.000.00.00, Docket 2016-29.*

Steve Kunst began discussion with a brief review of the Hall Farm property and the applicant's intention to discuss future development on the northernmost parcel. Bill Shnowske, Royalty Custom Homes, presented a multi-phased approach to development of the entire Hall Farm property, focused primarily on the north parcel, but also included some discussion on the southeast parcel.

Phase 1 of the proposal included 22 lots ranging in size from 0.75 to 5 acres, with the intent to build 1 to 3 mid-high to high end homes per year with a projected completion of 7-10 years. It was noted the long-term completion strategy was designed to minimize stress and impact on traffic, services, schools and neighborhood dynamics.

Phase 2 & 3 focused on the southeast parcel and included a transitional area for retirement style community or professional service type commercial and 36 residential lots averaging 0.65 acres intended for mid-level priced home development similar to EZ Acres/Zoromski Heights subdivisions. The intent was to build 5-7 homes per year with the same 7-10 year completion timeframe.

Phase 4 was presented briefly and focused on the challenges presented by wetlands, navigable waterways, street development, and sewer and water access. Shnowske indicated a partnership with the Town would be required to help offset the cost of development in this area.

Plan Commissioners indicated a number of concerns. Northern parcel density and its impact on traffic along Bellflower and Bittersweet at intersections, corners, and South Mountain School was the primary concern. The Plan Commission noted a development of the size proposed would require a north to south connector street to County Road N for them to feel comfortable with the density. The Commission also mentioned a traffic study or other factual evidence related to traffic flow in that area would be needed in order to hold a full discussion. Another major concern mentioned was stormwater management and the subsurface water coming from Rib Mountain itself. Commissioners Hampton and Wittman expressed concern that typical stormwater management practices may not be adequate to handle the unique water situation in this area.

b. Discussion and possible action to establish the Plan Commission Chairperson

Kunst stated Town Board Chairman, Al Opall, is seeking to appoint a new Plan Commission Chairperson and is looking for interested parties. Harlan Hebbe was identified as the lone interested Commissioner in the position.

c. Discussion and possible action to establish the Plan Commission Vice-Chairman

Kunst indicated the Plan Commission Rules of Order dictate the Commission have an acting Vice-Chairperson nominated amongst the group. The Commission noted they would establish the Vice-Chairperson upon successful appointment of the Chairperson.

CORRESPONENCE/QUESTIONS:

a. Electronic Message Signs

Kunst noted the Town Board chose to deny zoning ordinance amendments to prohibit Electronic Messaging Signs and has directed Plan Commission to establish regulations governing their use. Multiple members of Plan Commission expressed concern over the potential for a Las Vegas like strip along Rib Mountain Drive and the potential for traffic safety issues due to distracting transitions and video boards. Wittman noted if used correctly and respectfully, Electronic Message Centers are a great tool for business to communicate with the public.

PUBLIC COMMENT: None Received

ADJOURN:

Motion by Jim Hampton, seconded by Christine Nykiel to Adjourn. Motion carried 6-0. Meeting adjourned at 8:21 pm.

Respectfully Submitted,

Paul Kufahl, Building Inspector / Assistant Zoning Administrator

DRAFT

REPORT TO PLAN COMMISSION
FROM: Steve Kunst, Community Development Director
DATE: June 16, 2016
SUBJECT: Certified Survey Map Review

APPLICANT: Thomas Schuette, owner

PROPERTY ADDRESS: 7401 Bluebell Lane
PARCEL #: 34.208.000.031.01.00

REQUEST: Certified Survey Map (CSM) approval for the re-division of parcels within the Countryside Estates 1st Addition Subdivision.

ZONING DISTRICT: Estate Residential – 1 (ER-1)
ADJACENT ZONING: SR-2 (North); ER-1 (South, East, and West)

NARRATIVE:

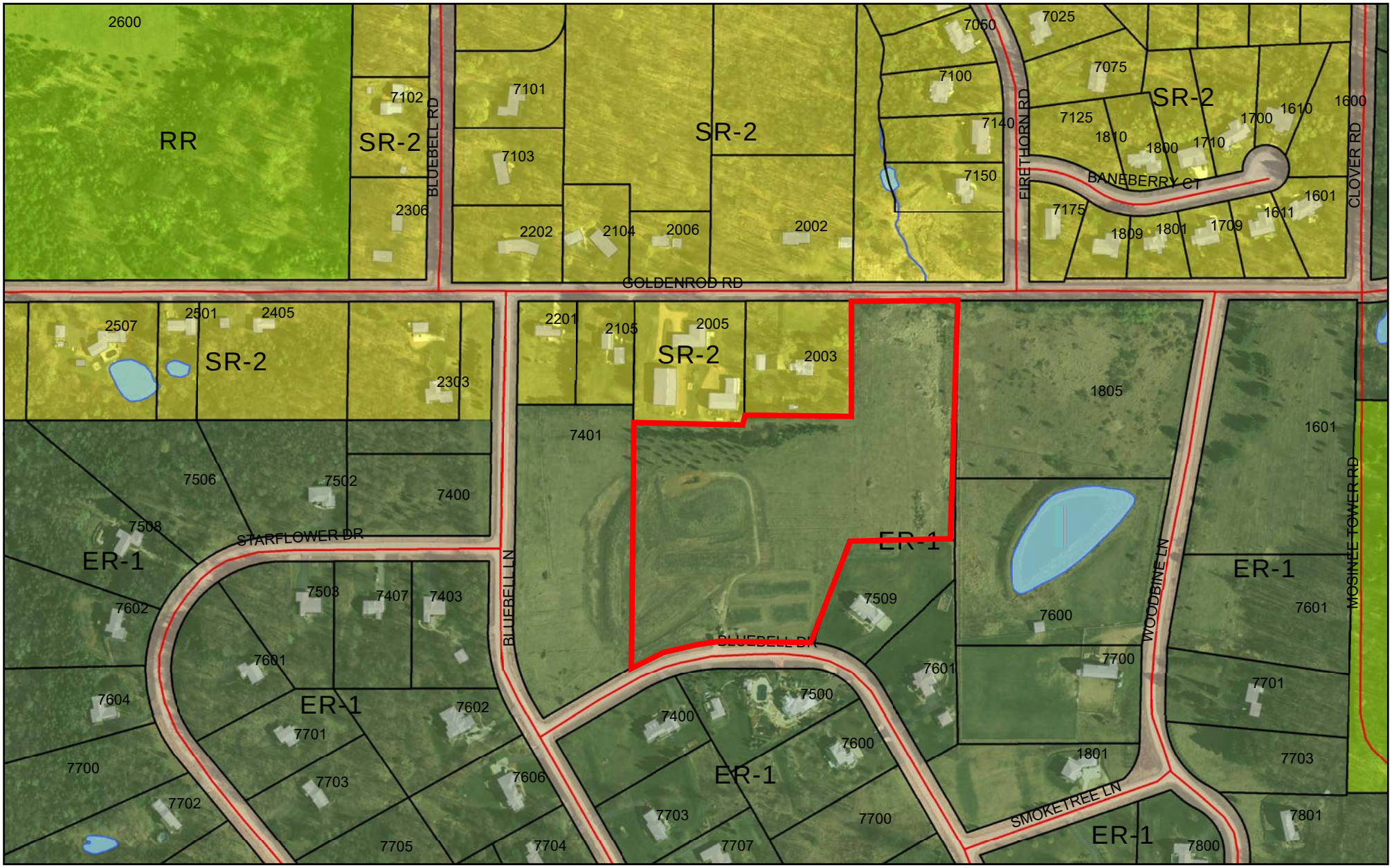
Thomas Schuette, owner, requests approval of the attached CSM to allow for the re-division of lots originally part of Countryside Estates 1st Addition. Proposed Lots 1 and 2 (with others) were combined in 2005 for tax purposes. The proposal calls for additional lands to be added to the original lots (Lots 46 & 47), thus requiring a CSM and both Plan Commission and Town Board review. The proposal does not increase the number of lots within the subdivision, rather it simply increases the size of two lots. Proposed Lot 3 is outside of the subdivision boundary. Each of the proposed parcels within the CSM meet the requirements of the Rib Mountain Code of Ordinances. The subject area is outside of the Sanitary District boundary and all lots would be served by private onsite wastewater treatment systems and wells.

POSSIBLE ACTION:

1. Recommend approval of the Certified Survey Map for the property addressed 7401 Bluebell Lane, as presented.

2. Recommend approval of the Certified Survey Map for the property addressed 7401 Bluebell Lane, with conditions/modifications.

3. Recommend denial of the Certified Survey Map for the property addressed 7401 Bluebell Lane.


RR
SR-2
ER-1
BLUEBELL RD
GOLDENROD RD
FIRETHORN RD
BANEBERRY CT
CLOVER RD
STARFLOWER DR
BLUEBELL LN
BLUEBELL DR
WOODBINE LN
SMOKETREE LN
MOSINEE TOWER RD
2600
7102
7101
7103
2306
2202
2104
2006
2002
7050
7025
7100
7075
7140
7125
7150
7175
1810
1800
1710
1700
1610
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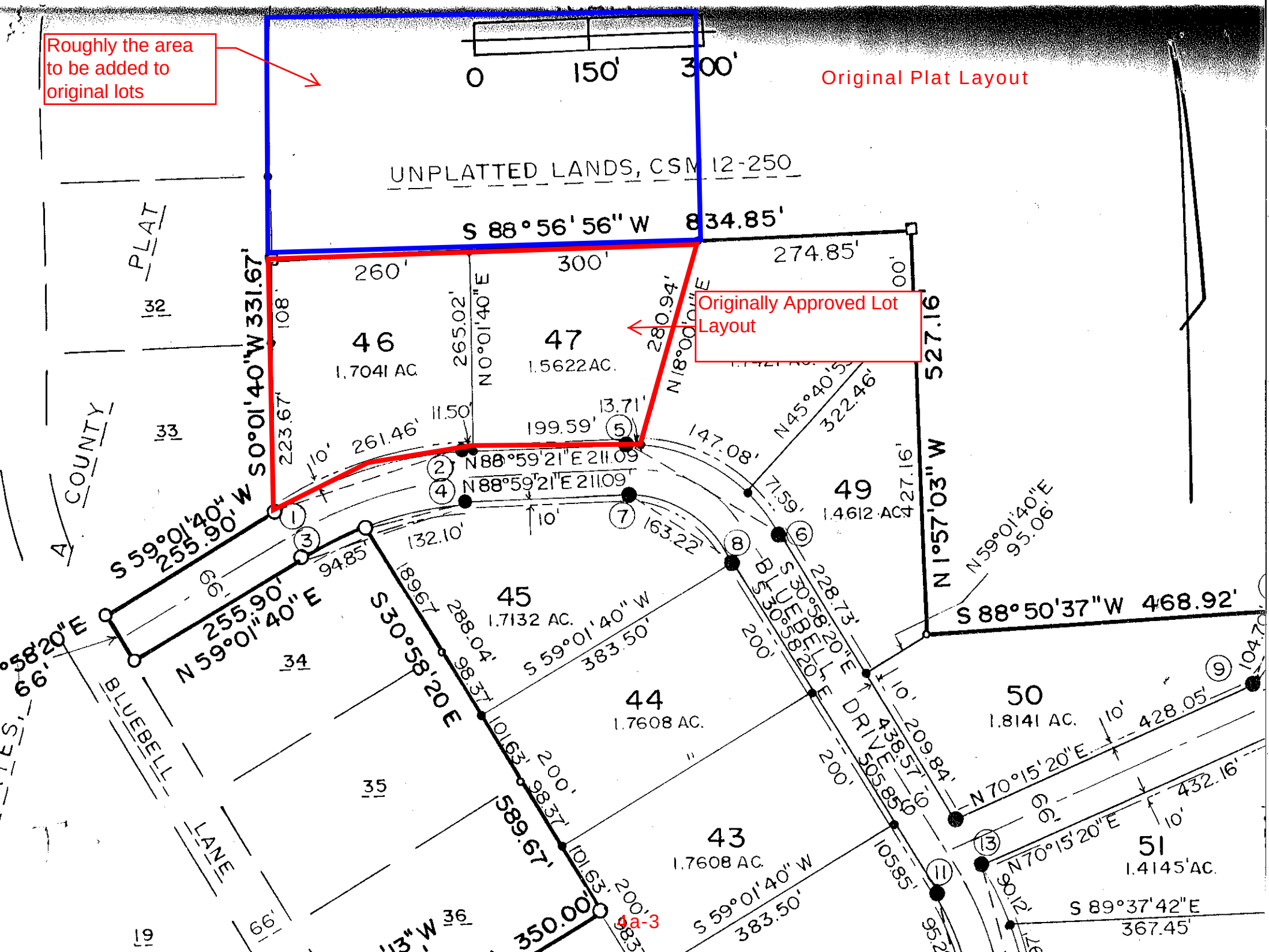
2201
2105
2005
2003
7401
1805
1601
7506
7502
7400
7508
7503
7407
7403
7509
7600
7601
7602
7604
7701
7700
7702
7703
7705
7704
7606
7500
7707
7801
7800
Zoning Districts (July 2014)
OR Outdoor Recreation
RA-1 Rural Agricultural
RA-2 Rural Agricultural
RR Rural Residential
CR-5ac Countryside Residential
SR-2 Suburban Residential
SR-3 Suburban Residential
UR-8 Urban Residential
ER-1 Estate Residential
MR-4 Mixed Residential
SC Suburban Commercial
NC Neighborhood Commercial
UC Urban Commercial
UDD Unified Development
EO Estate Office
SO Suburban Office
SI Suburban Industrial
ROW
Unzoned
Parcel Outline
Water Feature
Building (2010)
Road Centerline
Rib Mountain: "Where Nature, Family, and Sport Come Together"
Prepared by:
CWE
cweengineers.com
0
180
360
Feet
N
Map Printed: 6/16/2016
DISCLAIMER: The information and depictions contained herein are for informational purposes only; CWE specifically disclaims accuracy in this reproduction and advises that if specific and precise accuracy is required that certified maps, surveys, plats, or other official means be obtained.
There is no Statement of Accuracy for any parcel data; the parcel layer is considered an Index Parcel Layer not a Cadastral Parcel Layer. For planing purposes only.


Roughly the area to be added to original lots
Original Plat Layout
Originally Approved Lot Layout
0
150'
300'
UNPLATTED LANDS, CSM 12-250
S 88°56'56" W 834.85'
274.85'
260'
300'
46
1.7041 AC.
47
1.5622 AC.
49
1.4612 AC.
45
1.7132 AC.
44
1.7608 AC.
43
1.7608 AC.
50
1.8141 AC.
51
1.4145 AC.
S 0°01'40" W 331.67'
N 1°57'03" W 527.16'
S 88°50'37" W 468.92'
S 59°01'40" W 255.90'
N 59°01'40" E 255.90'
S 30°58'20" E 589.67'
S 59°01'40" W 383.50'
N 88°59'21" E 211.09'
N 0°01'40" E 265.02'
N 18°00'00" E 280.94'
N 45°40'53" 322.46'
N 59°01'40" E 95.06'
S 30°58'20" E 228.73'
N 70°15'20" E 428.05'
N 70°15'20" E 432.16'
S 89°37'42" E 367.45'
350.00'
BLUEBELL LANE
BLUEBELL DRIVE
PLAT
COUNTY
32
33
34
35
36
19
4a-3

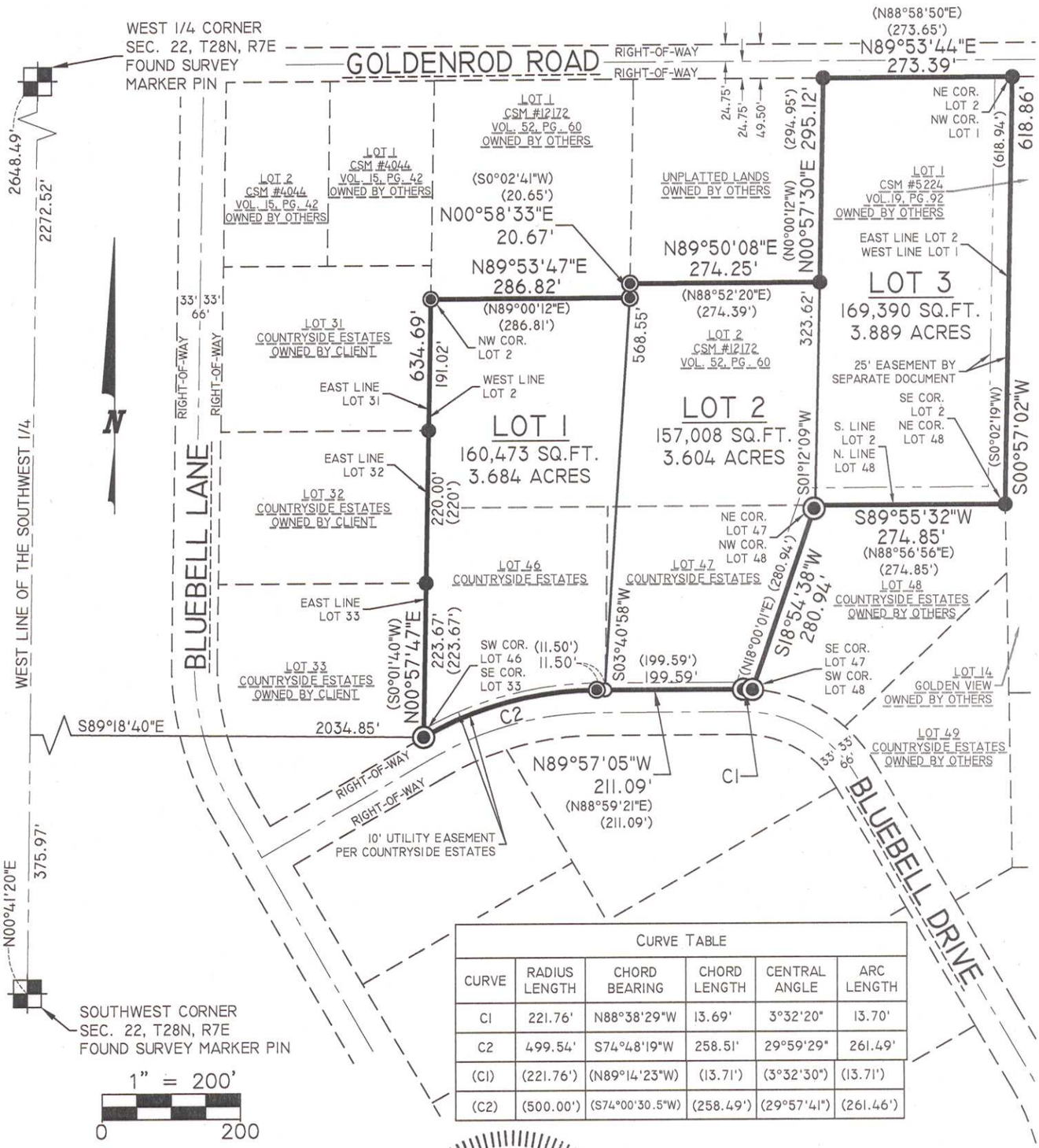
R.E.I. 4080 N. 20th AVE WAUSAU, WI 54401 (715)675-9784

MARATHON CO. CERTIFIED SURVEY MAP

MAP NO. _____ **VOLUME** _____ **PAGE** _____

PREPARED FOR: TOM SCHUETTE **LAND OWNER:** TOM & CONNIE SCHUETTE

OF ALL OF LOT 46 AND LOT 47 OF COUNTRYSIDE ESTATES, IST ADDITION, RECORDED IN PLAT CABINET NUMBER 2, ON PAGE 231, AS DOCUMENT NUMBER 997074, AND ALL OF LOT 2 OF CERTIFIED SURVEY MAP NUMBER 12172, RECORDED IN VOLUME 52, ON PAGE 60, AS DOCUMENT NUMBER 1259069, BOTH FILED IN THE MARATHON COUNTY REGISTER OF DEED OFFICE, BEING PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 AND PART OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4, ALL IN SECTION 22, TOWNSHIP 28 NORTH, RANGE 7 EAST, TOWN OF RIB MOUNTAIN, MARATHON COUNTY, WISCONSIN.



CURVE TABLE					
CURVE	RADIUS LENGTH	CHORD BEARING	CHORD LENGTH	CENTRAL ANGLE	ARC LENGTH
C1	221.76'	N88°38'29"W	13.69'	3°32'20"	13.70'
C2	499.54'	S74°48'19"W	258.51'	29°59'29"	261.49'
(C1)	(221.76')	(N89°14'23"W)	(13.71')	(3°32'30")	(13.71')
(C2)	(500.00')	(S74°00'30.5"W)	(258.49')	(29°57'41")	(261.46')

LEGEND

- 1 1/4 IN. IRON BAR FOUND
- 1 1/4 IN. O.D. IRON PIPE FOUND
- 1 1/4 IN. X 18 IN. IRON BAR WEIGHING 4.303 LBS/LIN. FT. SET
- 1 1/4 IN. O.D. X 18 IN. IRON PIPE WEIGHING 1.68 LBS/LIN. FT. SET

126.00' - MEASURED BEARING/LENGTH
(126.00') - RECORDED BEARING/LENGTH

WISCONSIN
JOSHUA W. PRENTICE
S-2852
SCHOFIELD, WI
LAND SURVEYOR
6-13-2016

NOTES:
1. BEARINGS ARE BASED ON THE MARATHON COUNTY COORDINATE SYSTEM NAD 83(2011) DATUM AND REFERENCED TO THE WEST LINE OF THE SOUTHWEST 1/4, SECTION 22, TOWNSHIP 28 NORTH, RANGE 7 EAST, MEASURED TO BEAR NORTH 00°41'20" EAST.
2. FIELD WORK WAS COMPLETED ON 6-2-2016.

DRAWING FILE: P:\5300-5399\5371 Schuette\dwg\Survey\5371 CSM 2016.dwg

SHEET 1 OF 3

R.E.I. 4080 N. 20th AVE WAUSAU, WI 54401 (715)675-9784

MARATHON CO. CERTIFIED SURVEY MAP

MAP NO. _____ **VOLUME** _____ **PAGE** _____

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SURVEYOR'S CERTIFICATE

I, JOSHUA W. PRENTICE, WISCONSIN PROFESSIONAL LAND SURVEYOR S-2852, DO HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF: THAT I HAVE SURVEYED, MAPPED AND DIVIDED ALL OF LOT 46 AND LOT 47 OF COUNTRYSIDE ESTATES, IST ADDITION, RECORDED IN PLAT CABINET NUMBER 2, ON PAGE 231, AS DOCUMENT NUMBER 997074, AND ALL OF LOT 2 OF CERTIFIED SURVEY MAP NUMBER 12172, RECORDED IN VOLUME 52, ON PAGE 60, AS DOCUMENT NUMBER 1259069, BOTH FILED IN THE MARATHON COUNTY REGISTER OF DEED OFFICE, BEING PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 AND PART OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4, ALL IN SECTION 22, TOWNSHIP 28 NORTH, RANGE 7 EAST, TOWN OF RIB MOUNTAIN, MARATHON COUNTY, WISCONSIN.

THAT THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 486,871 SQUARE FEET, 11.177 ACRES, MORE OR LESS.

THAT I HAVE MADE THIS SURVEY, DIVISION AND MAP THEREOF AT THE DIRECTION OF TOM SCHUETTE, OWNER OF SAID PARCELS.

THAT SAID PARCELS ARE SUBJECT TO EASEMENTS, RESTRICTIONS, AND RIGHT-OF-WAYS OF RECORD.

THAT I HAVE FULLY COMPLIED WITH THE PROVISIONS OF SECTION 236.34 OF THE WISCONSIN STATUTES, WISCONSIN ADMINISTRATIVE CODE A-E7 AND THE SUBDIVISION REGULATIONS OF THE TOWN OF RIB MOUNTAIN AND MARATHON COUNTY.

THAT THIS MAP IS A CORRECT AND ACCURATE REPRESENTATION OF THE EXTERIOR BOUNDARIES OF SAID PARCELS, AND OF THE DIVISION THEREOF MADE.

DATED THIS 13TH DAY OF JUNE 2016

REI
JOSHUA W. PRENTICE
WI P.L.S. S-2852

WISCONSIN
JOSHUA W. PRENTICE
S-2852
SCHOFIELD, WI
LAND SURVEYOR
6-13-2016

Approved for Recording Under the Terms of the Marathon County Land Division Regulations.
By: _____
Date: _____
Marathon County Conservation, Planning and Zoning Department

TOWN OF RIB MOUNTAIN
APPROVED FOR RECORDING UNDER THE TERMS OF THE TOWN OF RIB MOUNTAIN LAND DIVISION ORDINANCE.

BY: _____

DATE: _____

R.E.I. 4080 N. 20th AVE WAUSAU, WI 54401 (715)675-9784

MARATHON CO. CERTIFIED SURVEY MAP

MAP NO. _____ **VOLUME** _____ **PAGE** _____

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OWNER'S CERTIFICATE

_____

_____

I, THOMAS J. SCHUETTE & CONNIE R. SCHUETTE, AS OWNERS, DO HEREBY CERTIFY THAT THEY CAUSED THE LAND DESCRIBED ON THIS CERTIFIED SURVEY MAP TO BE SURVEYED, DIVIDED, AND MAPPED AS REPRESENTED ON THIS CERTIFIED SURVEY MAP.

DATED THIS_____, DAY OF _____, 2016.

STATE OF _____)
SS
_____ COUNTY)

PERSONALLY CAME BEFORE ME THIS_____DAY OF_____, 2016,

THE ABOVE NAMED THOMAS J. SCHUETTE & CONNIE R. SCHUETTE TO ME KNOWN TO BE THE SAME PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGE THAT THEY EXECUTED THE FOREGOING INSTRUMENT.

_____

NOTARY PUBLIC STATE OF _____

MY COMMISSION EXPIRES_____

WISCONSIN
JOSHUA W. PRENTICE
S-2852
SCHOFIELD, WI
LAND SURVEYOR

6-13-2016

DRAWING FILE: P:\5300-5399\5371 Schuette\dwg\Survey\5371 CSM 2016.dwg

SHEET 3 OF 3

REPORT TO PLANNING COMMISSION
FROM: Steve Kunst, Community Development Director
DATE: June 17, 2016
SUBJECT: Regulation of Solar Energy Systems

APPLICANT: Town of Rib Mountain

REQUEST: Plan Commission input on the Town of Rib Mountain Zoning Ordinance related to Solar Energy Systems.

NARRATIVE:
One of the driving forces behind this discussion is the Zoning Ordinance language below, including roof-mounted solar panels within the definition of 'detached energy systems.'

> *"3. Permanently placed generators, or similar energy producing devices: (<u>This section includes all solar-electric devices mounted flush with or integral with a roofing system design</u>)*
> *a. Permitted by Right: Not applicable.*
> *b. Special Use Regulations: Not applicable.*
> *c. Conditional Use Regulations: (All Districts)."*

In general, the Plan Commission appeared comfortable looking into methods of permitting roof-mounted solar panels provided specific performance standards were met (e.g. mounted flush to the roof, color matching the roof, etc.). However, detached systems, whether ground mounted or large brackets on the roof would still be conditional uses. Under that direction the first step towards amending the Ordinance is to distinguish the difference between solar energy systems mounted flush with the roof and detached systems. Below are some example definitions to begin discussion as well as commonly regulated performance standards.

Solar Energy System: A device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generation, or water heating.

Solar Energy System, Roof-Mounted: An active solar energy system that is structurally mounted to the roof of a building or structure, of any size.

- Potential edits to this definition could include requiring the unit be flush with the roof and/or limit overall size to either a fixed value or percentage of the roof area.

Solar Energy System, Ground Mounted: An active solar energy system that is structurally mounted to the ground and is not roof-mounted, of any size.

POSSIBLE PERFORMANCE STANDARDS:

- Siting/Location
- Appearance
- Bufferyards/Screening
- Glare
- Roof Loading

The intent for this discussion is for the Commission to begin identifying the aspects of solar energy systems they wish to regulate. As we narrow down those concepts, staff will begin researching and drafting specific performance measures for your review and comment. Also included in your packets are various State Statute provisions related to the municipal regulation of solar energy. Though the authority of local governments over solar energy is greatly reduced, the Town still has the responsibility to preserve and protect public health and safety.

<u>POSSIBLE ACTION</u>: No formal action to be taken. Item is for discussion and general direction.

Definitions

Solar Energy System: A device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generation, or water heating.

Solar Energy System, Active: A solar energy system whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.

Solar Energy System, Grid-Intertie: A photovoltaic system that is connected to an electric circuit served by an electric utility.

Solar Energy System, Ground-Mounted: An Active Solar Energy System that is structurally mounted to the ground and is not roof-mounted; may be of any size (small-, medium- or large-scale).

Solar Energy System, Large-Scale: An Active Solar Energy System that occupies more than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of about 250kW DC or greater).

Solar Energy System, Medium-Scale: An Active Solar Energy System that occupies more than 1,750 but less than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of about 10 - 250 kW DC).

Solar Energy System, Off-Grid: A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility.

Solar Energy System, Passive: A solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the energy via a heat exchanger.

Solar Energy System, Roof-Mounted: An Active Solar Energy System that is structurally mounted to the roof of a building or structure; may be of any size (small-, medium- or large-scale).

Solar Energy System, Small-Scale: An Active Solar Energy System that occupies 1,750 square feet of surface area or less (equivalent to a rated nameplate capacity of about 10 kW DC or less).

Siting/Location

Street facing with visual deterrent from ROW or side/rear yard facing neighbor visibility considerations

Appearance

Flush Mounted or Building Integrated Systems Only

Similar to Roofing Color

Performance Standards

Glare, Roof Loading, UL or SRCC Listed panels

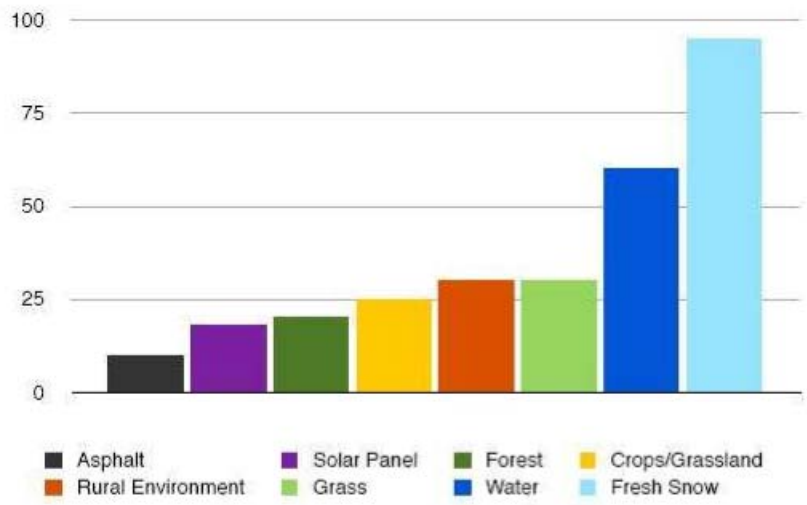

Figure 3: Comparative reflection analysis

Fees - $100

Inspections

Placement, grounding, disconnects dc/ac, integration

66.0401 Regulation relating to solar and wind energy systems.

(1e) Definitions. In this section:

(a) "Application for approval" means an application for approval of a wind energy system under rules promulgated by the commission under s. 196.378 (4g) (c) 1.

(b) "Commission" means the public service commission.

(c) "Political subdivision" means a city, village, town, or county.

(d) "Wind energy system" has the meaning given in s. 66.0403 (1) (m).

(1m) Authority to restrict systems limited. No political subdivision may place any restriction, either directly or in effect, on the installation or use of a wind energy system that is more restrictive than the rules promulgated by the commission under s. 196.378 (4g) (b). No political subdivision may place any restriction, either directly or in effect, on the installation or use of a solar energy system, as defined in s. 13.48 (2) (h) 1. g., or a wind energy system, unless the restriction satisfies one of the following conditions:

(a) Serves to preserve or protect the public health or safety.

(b) Does not significantly increase the cost of the system or significantly decrease its efficiency.

(c) Allows for an alternative system of comparable cost and efficiency.

(2) Authority to require trimming of blocking vegetation. Subject to sub. (6) (a), a political subdivision may enact an ordinance relating to the trimming of vegetation that blocks solar energy, as defined in s. 66.0403 (1) (k), from a collector surface, as defined under s. 700.41 (2) (b), or that blocks wind from a wind energy system. The ordinance may include a designation of responsibility for the costs of the trimming. The ordinance may not require the trimming of vegetation that was planted by the owner or occupant of the property on which the vegetation is located before the installation of the solar or wind energy system.

(3) Testing activities. A political subdivision may not prohibit or restrict any person from conducting testing activities to determine the suitability of a site for the placement of a wind energy system. A political subdivision objecting to such testing may petition the commission to impose reasonable restrictions on the testing activity.

(4) Local procedure.

(a)

1. Subject to subd. 2., a political subdivision that receives an application for approval shall determine whether it is complete and, no later than 45 days after the application is filed, notify the applicant about the determination. As soon as possible after receiving the application for approval, the political subdivision shall publish a class 1 notice, under ch. 985, stating that an application for approval has been filed with the political subdivision. If the political subdivision determines that the application is incomplete, the notice shall state the reason for the determination. An applicant may supplement and refile an application that the political subdivision has determined to be incomplete. There is no limit on the number of times that an applicant may refile an application for approval. If the political subdivision fails to determine whether an application for approval is complete within 45 days after the application is filed, the application shall be considered to be complete.

2. If a political subdivision that receives an application for approval under subd. 1. does not have in effect an ordinance described under par. (g), the 45-day time period for determining whether an application is complete, as described in subd. 1., does not begin until the first day of the 4th month beginning after the political subdivision receives the application. A political subdivision may notify an applicant at any time, after receipt of the application and before the first day of the 4th month after its receipt, that it does not intend to enact an ordinance described under par. (g).

3. On the same day that an applicant makes an application for approval under subd. 1. for a wind energy system, the applicant shall mail or deliver written notice of the application to the owners of land adjoining the site of the wind energy system.

4. A political subdivision may not consider an applicant's minor modification to the application to constitute a new application for the purposes of this subsection.

(b) A political subdivision shall make a record of its decision making on an application for approval, including a recording of any public hearing, copies of documents submitted at any public hearing, and

copies of any other documents provided to the political subdivision in connection with the application for approval. The political subdivision's record shall conform to the commission's rules promulgated under s. 196.378 (4g) (c) 2.

(c) A political subdivision shall base its decision on an application for approval on written findings of fact that are supported by the evidence in the record under par. (b). A political subdivision's procedure for reviewing the application for approval shall conform to the commission's rules promulgated under s. 196.378 (4g) (c) 3.

(d) Except as provided in par. (e), a political subdivision shall approve or disapprove an application for approval no later than 90 days after the day on which it notifies the applicant that the application for approval is complete. If a political subdivision fails to act within the 90 days, or within any extended time period established under par. (e), the application is considered approved.

(e) A political subdivision may extend the time period in par. (d) if, within that 90-day period, the political subdivision authorizes the extension in writing. Any combination of the following extensions may be granted, except that the total amount of time for all extensions granted under this paragraph may not exceed 90 days:

1. An extension of up to 45 days if the political subdivision needs additional information to determine whether to approve or deny the application for approval.

2. An extension of up to 90 days if the applicant makes a material modification to the application for approval.

3. An extension of up to 90 days for other good cause specified in writing by the political subdivision.

(f)

1. Except as provided in subd. 2., a political subdivision may not deny or impose a restriction on an application for approval unless the political subdivision enacts an ordinance that is no more restrictive than the rules the commission promulgates under s. 196.378 (4g) (b).

2. A political subdivision may deny an application for approval if the proposed site of the wind energy system is in an area primarily designated for future residential or commercial development, as shown in a map that is adopted, as part of a comprehensive plan, under s. 66.1001 (2) (b) and (f), before June 2, 2009, or as shown in such maps after December 31, 2015, as part of a comprehensive plan that is updated as required under s. 66.1001 (2) (i). This subdivision applies to a wind energy system that has a nominal capacity of at least one megawatt.

(g) A political subdivision that chooses to regulate wind energy systems shall enact an ordinance, subject to sub. (6) (b), that is no more restrictive than the applicable standards established by the commission in rules promulgated under s. 196.378 (4g).

(5) Public service commission review.

(a) A decision of a political subdivision to determine that an application is incomplete under sub. (4) (a) 1., or to approve, disapprove, or impose a restriction upon a wind energy system, or an action of a political subdivision to enforce a restriction on a wind energy system, may be appealed only as provided in this subsection.

(b)

1. Any aggrieved person seeking to appeal a decision or enforcement action specified in par. (a) may begin the political subdivision's administrative review process. If the person is still aggrieved after the administrative review is completed, the person may file an appeal with the commission. No appeal to the commission under this subdivision may be filed later than 30 days after the political subdivision has completed its administrative review process. For purposes of this subdivision, if a political subdivision fails to complete its administrative review process within 90 days after an aggrieved person begins the review process, the political subdivision is considered to have completed the process on the 90th day after the person began the process.

2. Rather than beginning an administrative review under subd. 1., an aggrieved person seeking to appeal a decision or enforcement action of a political subdivision specified in par. (a) may file an appeal directly with the commission. No appeal to the commission under this subdivision may be filed later than 30 days after the decision or initiation of the enforcement action.

3. An applicant whose application for approval is denied under sub. (4) (f) 2. may appeal the denial to the commission. The commission may grant the appeal notwithstanding the inconsistency of the application for approval with the political subdivision's planned residential or commercial development if the commission determines that granting the appeal is consistent with the public interest.

(c) Upon receiving an appeal under par. (b), the commission shall notify the political subdivision. The political subdivision shall provide a certified copy of the record upon which it based its decision or enforcement action within 30 days after receiving notice. The commission may request of the political subdivision any other relevant governmental records and, if requested, the political subdivision shall provide such records within 30 days after receiving the request.

(d) The commission may confine its review to the records it receives from the political subdivision or, if it finds that additional information would be relevant to its decision, expand the records it reviews. The commission shall issue a decision within 90 days after the date on which it receives all of the records it requests under par. (c), unless for good cause the commission extends this time period in writing. If the commission determines that the political subdivision's decision or enforcement action does not comply with the rules it promulgates under s. 196.378 (4g) or is otherwise unreasonable, the political subdivision's decision shall be superseded by the commission's decision and the commission may order an appropriate remedy.

(e) In conducting a review under par. (d), the commission may treat a political subdivision's determination that an application under sub. (4) (a) 1. is incomplete as a decision to disapprove the

application if the commission determines that a political subdivision has unreasonably withheld its determination that an application is complete.

(f) Judicial review is not available until the commission issues its decision or order under par. (d). Judicial review shall be of the commission's decision or order, not of the political subdivision's decision or enforcement action. The commission's decision or order is subject to judicial review under ch. 227. Injunctive relief is available only as provided in s. 196.43.

(6) Applicability of a political subdivision or county ordinance.

(a)

1. A county ordinance enacted under sub. (2) applies only to the towns in the county that have not enacted an ordinance under sub. (2).

2. If a town enacts an ordinance under sub. (2) after a county has enacted an ordinance under sub. (2), the county ordinance does not apply, and may not be enforced, in the town, except that if the town later repeals its ordinance, the county ordinance applies in that town.

(b)

1. Subject to subd. 2., a county ordinance enacted under sub. (4) applies only in the unincorporated parts of the county.

2. If a town enacts an ordinance under sub. (4), either before or after a county enacts an ordinance under sub. (4), the more restrictive terms of the 2 ordinances apply to the town, except that if the town later repeals its ordinance, the county ordinance applies in that town.

(c) If a political subdivision enacts an ordinance under sub. (4) (g) after the commission's rules promulgated under s. 196.378 (4g) take effect, the political subdivision may not apply that ordinance to, or require approvals under that ordinance for, a wind energy system approved by the political subdivision under a previous ordinance or under a development agreement.

History: 1981 c. 354; 1981 c. 391 s. 210; 1993 a. 414; 1999 a. 150 ss. 78, 79, 84; Stats. 1999 s. 66.0401; 2001 a. 30; 2009 a. 40.

This section is a legislative restriction on the ability of municipalities to regulate solar and wind energy systems. The statute is not superseded by s. 66.0403 or municipal zoning or conditional use powers. A municipality's consideration of an application for a conditional use permit for a system under this section must be in light of the restrictions placed on local regulation by this section. State ex rel. Numrich v. City of Mequon Board of Zoning Appeals, 2001 WI App 88, 242 Wis. 2d 677, 626 N.W.2d 366, 00-1643.

Sub. (1) [now sub. (1m)] requires a case-by-case approach, such as a conditional use permit procedure, and does not allow political subdivisions to find legislative facts or make policy. The local governing arm must hear the specifics of the particular system and then decide whether a restriction

is warranted. It may not promulgate an ordinance in which it arbitrarily sets a "one size fits all" scheme of requirements for any system. The conditions listed in sub. (1) (a) to (c) are the standards circumscribing the power of political subdivisions, not openings for them to make policy that is contrary to the state's expressed policy. Ecker Brothers v. Calumet County, 2009 WI App 112, 321 Wis. 2d 51, 772 N.W.2d 240, 07-2109.

66.0403 Solar and wind access permits.

(1) Definitions. In this section:

(a) "Agency" means the governing body of a municipality which has provided for granting a permit or the agency which the governing body of a municipality creates or designates under sub. (2). "Agency" includes an officer or employee of the municipality.

(b) "Applicant" means an owner applying for a permit under this section.

(c) "Application" means an application for a permit under this section.

(d) "Collector surface" means any part of a solar collector that absorbs solar energy for use in the collector's energy transformation process. "Collector surface" does not include frames, supports and mounting hardware.

(e) "Collector use period" means 9 a.m. to 3 p.m. standard time daily.

(f) "Impermissible interference" means the blockage of wind from a wind energy system or solar energy from a collector surface or proposed collector surface for which a permit has been granted under this section during a collector use period if such blockage is by any structure or vegetation on property, an owner of which was notified under sub. (3) (b). "Impermissible interference" does not include:

1. Blockage by a narrow protrusion, including but not limited to a pole or wire, which does not substantially interfere with absorption of solar energy by a solar collector or does not substantially block wind from a wind energy system.

2. Blockage by any structure constructed, under construction or for which a building permit has been applied for before the date the last notice is mailed or delivered under sub. (3) (b).

3. Blockage by any vegetation planted before the date the last notice is mailed or delivered under sub. (3) (b) unless a municipality by ordinance under sub. (2) defines impermissible interference to include such vegetation.

(g) "Municipality" means any county with a zoning ordinance under s. 59.69, any town with a zoning ordinance under s. 60.61, any city with a zoning ordinance under s. 62.23 (7), any 1st class city or any village with a zoning ordinance under s. 61.35.

(h) "Owner" means at least one owner, as defined under s. 66.0217 (1) (d), of a property or the personal representative of at least one owner.

(i) "Permit" means a solar access permit or a wind access permit issued under this section.

(j) "Solar collector" means a device, structure or a part of a device or structure a substantial purpose of which is to transform solar energy into thermal, mechanical, chemical or electrical energy.

(k) "Solar energy" means direct radiant energy received from the sun.

(L) "Standard time" means the solar time of the ninetieth meridian west of Greenwich.

(m) "Wind energy system" means equipment and associated facilities that convert and then store or transfer energy from the wind into usable forms of energy.

(2) Permit procedure. The governing body of every municipality may provide for granting a permit. A permit may not affect any land except land which, at the time the permit is granted, is within the territorial limits of the municipality or is subject to an extraterritorial zoning ordinance adopted under s. 62.23 (7a), except that a permit issued by a city or village may not affect extraterritorial land subject to a zoning ordinance adopted by a county or a town. The governing body may appoint itself as the agency to process applications or may create or designate another agency to grant permits. The governing body may provide by ordinance that a fee be charged to cover the costs of processing applications. The governing body may adopt an ordinance with any provision it deems necessary for granting a permit under this section, including but not limited to:

(a) Specifying standards for agency determinations under sub. (5) (a).

(b) Defining an impermissible interference to include vegetation planted before the date the last notice is mailed or delivered under sub. (3) (b), provided that the permit holder shall be responsible for the cost of trimming such vegetation.

(3) Permit applications.

(a) In a municipality which provides for granting a permit under this section, an owner who has installed or intends to install a solar collector or wind energy system may apply to an agency for a permit.

(b) An agency shall determine if an application is satisfactorily completed and shall notify the applicant of its determination. If an applicant receives notice that an application has been satisfactorily completed, the applicant shall deliver by certified mail or by hand a notice to the owner of any property which the applicant proposes to be restricted by the permit under sub. (7). The applicant shall submit to the agency a copy of a signed receipt for every notice delivered under this paragraph. The agency shall supply the notice form. The information on the form may include, without limitation because of enumeration:

1. The name and address of the applicant, and the address of the land upon which the solar collector or wind energy system is or will be located.

2. That an application has been filed by the applicant.

3. That the permit, if granted, may affect the rights of the notified owner to develop his or her property and to plant vegetation.

4. The telephone number, address and office hours of the agency.

5. That any person may request a hearing under sub. (4) within 30 days after receipt of the notice, and the address and procedure for filing the request.

(4) Hearing. Within 30 days after receipt of the notice under sub. (3) (b), any person who has received a notice may file a request for a hearing on the granting of a permit or the agency may determine that a hearing is necessary even if no such request is filed. If a request is filed or if the agency determines that a hearing is necessary, the agency shall conduct a hearing on the application within 90 days after the last notice is delivered. At least 30 days prior to the hearing date, the agency shall notify the applicant, all owners notified under sub. (3) (b) and any other person filing a request of the time and place of the hearing.

(5) Permit grant.

(a) The agency shall grant a permit if the agency determines that:

1. The granting of a permit will not unreasonably interfere with the orderly land use and development plans of the municipality;

2. No person has demonstrated that she or he has present plans to build a structure that would create an impermissible interference by showing that she or he has applied for a building permit prior to receipt of a notice under sub. (3) (b), has expended at least $500 on planning or designing such a structure or by submitting any other credible evidence that she or he has made substantial progress toward planning or constructing a structure that would create an impermissible interference; and

3. The benefits to the applicant and the public will exceed any burdens.

(b) An agency may grant a permit subject to any condition or exemption the agency deems necessary to minimize the possibility that the future development of nearby property will create an impermissible interference or to minimize any other burden on any person affected by granting the permit. Such conditions or exemptions may include but are not limited to restrictions on the location of the solar collector or wind energy system and requirements for the compensation of persons affected by the granting of the permit.

(6) Record of permit. If an agency grants a permit:

(a) The agency shall specify the property restricted by the permit under sub. (7) and shall prepare notice of the granting of the permit. The notice shall include the identification required under s. 706.05 (2) (c) for the owner and the property upon which the solar collector or wind energy system is or will be located and for any owner and property restricted by the permit under sub. (7), and shall indicate that the property may not be developed and vegetation may not be planted on the property so as to create an impermissible interference with the solar collector or wind energy system which is the subject of the permit unless the permit affecting the property is terminated under sub. (9) or unless an agreement affecting the property is filed under sub. (10).

(b) The applicant shall record with the register of deeds of the county in which the property is located the notice under par. (a) for each property specified under par. (a) and for the property upon which the solar collector or wind energy system is or will be located.

(7) Remedies for impermissible interference.

(a) Any person who uses property which he or she owns or permits any other person to use the property in a way which creates an impermissible interference under a permit which has been granted or which is the subject of an application shall be liable to the permit holder or applicant for damages, except as provided under par. (b), for any loss due to the impermissible interference, court costs and reasonable attorney fees unless:

1. The building permit was applied for prior to receipt of a notice under sub. (3) (b) or the agency determines not to grant a permit after a hearing under sub. (4).

2. A permit affecting the property is terminated under sub. (9).

3. An agreement affecting the property is filed under sub. (10).

(b) A permit holder is entitled to an injunction to require the trimming of any vegetation which creates or would create an impermissible interference as defined under sub. (1) (f). If the court finds on behalf of the permit holder, the permit holder shall be entitled to a permanent injunction, damages, court costs and reasonable attorney fees.

(8) Appeals. Any person aggrieved by a determination by a municipality under this section may appeal the determination to the circuit court for a review.

(9) Termination of solar or wind access rights.

(a) Any right protected by a permit under this section shall terminate if the agency determines that the solar collector or wind energy system which is the subject of the permit is:

1. Permanently removed or is not used for 2 consecutive years, excluding time spent on repairs or improvements.

2. Not installed and functioning within 2 years after the date of issuance of the permit.

(b) The agency shall give the permit holder written notice and an opportunity for a hearing on a proposed termination under par. (a).

(c) If the agency terminates a permit, the agency may charge the permit holder for the cost of recording and record a notice of termination with the register of deeds, who shall record the notice with the notice recorded under sub. (6) (b) or indicate on any notice recorded under sub. (6) (b) that the permit has been terminated.

(10) Waiver. A permit holder by written agreement may waive all or part of any right protected by a permit. A copy of such agreement shall be recorded with the register of deeds, who shall record such copy with the notice recorded under sub. (6) (b).

(11) Preservation of rights. The transfer of title to any property shall not change the rights and duties under this section or under an ordinance adopted under sub. (2).

(12) Construction.

(a) This section may not be construed to require that an owner obtain a permit prior to installing a solar collector or wind energy system.

(b) This section may not be construed to mean that acquisition of a renewable energy resource easement under s. 700.35 is in any way contingent upon the granting of a permit under this section.

History: 1981 c. 354; 1983 a. 189 s. 329 (14); 1983 a. 532 s. 36; 1993 a. 414; 1995 a. 201; 1999 a. 150 s. 82; Stats. 1999 s. 66.0403; 2007 a. 97; 2009 a. 40.

The common law right to solar access is discussed. Prah v. Maretti, 108 Wis. 2d 223, 321 N.W.2d 182 (1982).

The owner of an energy system does not need a permit under this section. Barring enforceable municipal restrictions, an owner may construct a system without prior municipal approval. This section benefits and protects the owner of the system by restricting the use of nearby property to prevent an interference with the system. State ex rel. Numrich v. City of Mequon Board of Zoning Appeals, 2001 WI App 88, 242 Wis. 2d 677, 626 N.W.2d 366, 00-1643.

Wisconsin recognizes the power of the sun: Prah v. Maretti and the solar access act. 1983 WLR 1263.

REPORT TO PLANNING COMMISSION
FROM: Steve Kunst, Community Development Director
DATE: February 19, 2016
SUBJECT: RMMC Subchapter X – Signage Regulations

APPLICANT: Town of Rib Mountain

REQUEST: Zoning Text amendments related to Electronic Message Signs

NARRATIVE:
The Town Board directed staff and the Plan Commission to determine a new method for regulating electronic message signs within the Zoning Ordinance. Staff's intent for this meeting is to begin identifying specific aspects of electronic message signs the Town wishes to regulate. Upon receiving this direction, staff can begin drafting amendments to the ordinance. Below is a general list of items related to electronic message signs the Town could regulate. Additional reading materials also were included for those interested.

POTENTIAL POINTS OF REGULATION:

- Length of display time
  - Currently, the Town allows a display to change no more than once every 30 seconds
- Transitions between messages
  - Pertains to fading, spinning, revolving, and scrolling of images
- Brightness levels
  - Can require different levels at daytime/nighttime hours
- Overall size of electronic message area
  - Could be a set value or a percentage of allowable signage
- Location
  - Proximity to residential zoning districts, specific zoning districts in which they are permitted
- Require malfunctioning signs to turn dark until fixed

NEW DEFINITIONS: The definitions generated during earlier Commission discussion should remain.

Electronic message sign. A sign whose informational content can be changed or altered on a fixed display screen composed of electronically illuminated parts. Electronic message signs use changing lights to form a message in text form wherein the sequence of the text and rate of change is electronically programmed and can be modified by electronic processes.

Changeable message sign: a sign which is manually capable of altering its color, appearance, or message. These signs are only permitted as unique signs.

ATTACHED MATERIALS:

Also included in your packet is a study completed by the University of Cincinnati focused on 'digital on-premise signs' as well as a handout from the United States Sign Council for those interested in reading more.

POSSIBLE ACTION: No formal action to be taken. Item is for general direction at this point.

The Regulation of Signage: Guidelines for Local Regulation of Digital On-Premise Signs

Menelaos Triantafillou – University of Cincinnati

Alan C. Weinstein – Cleveland State University

Introduction

Advancements in technology and their application to signage have been a constant in the evolution of signs, their design, and their role in defining physical places. Parallel to this, with each successive application of new technology to new signs – internal/external lighting, backlit awnings, and currently digital sign technology or electronic message centers -- local governments have found themselves unable to understand the new sign technology or the specifics of how to regulate the new types of signs it allowed. Eventually, during the first phase of the use of new technologies, sign regulations are amended to impose various restrictions on the new type of signs. During subsequent phases, a more balanced picture emerges because more knowledge about the new technology becomes available, the sign industry provides more options and technical specifications to address community concerns and meet statutory standards, and local governments gain experience with regulating these new signs,.

Perhaps there are no better places that illustrate the evolution in sign design, specifically lighting and graphics, and the integration of new sign technology in a concentrated district than Times Square in New York City and “The Strip” in Las Vegas. Even though these districts do not resemble the typical American commercial strip, their current visual character is the result of the evolution of new technology in the design of signage and its use in a very defined space.

In the 1890’s, the introduction of incandescent light bulbs made the electrification of Broadway possible and began to give a new aesthetic to New York’s theater district and Times Square. The first electrically-illuminated sign appeared in Times Square 1892 and was an advertisement for a Coney Island resort. Signs illuminated with light bulbs replaced the previous hand painted wooden billboards that

were primarily textual in nature, similar to signs that are the average preference for Main Street-type historic places. Times Square became known as “The Great White Way” due to its saturation of electric billboards and signs in theater marquees, restaurants, and shops. There were many negative reactions to the use of this new technology that added colorful lighting displays to the content of building signs and billboards. The concentration of specific land uses, the theaters, and the location of the square were driving the continuous need for exciting signs. New advances in technology fed the need for inventing new creative graphics. Gradually, the current character of Times Square emerged, but each time technology made it possible to invent a new sign, opposition by New Yorkers resulted in regulatory responses. Finally, in 1987, a comprehensive signage ordinance was enacted to regulate billboards on buildings.

Today, Times Square and the Las Vegas “Strip” contain some of the world’s largest signs and the new technology of Electronic Message Centers is defining a new era of exciting graphics, messaging, and place definition making these two districts unlike any other place in the world. With the collaboration of the sign industry, the businesses, the regulators and the elected officials, both Times Square and “The Strip” have evolved into unique districts with a distinctive character.

But how much of this new sign technology can – or should be – adapted to the rest of the country -- to “Mainstreet USA”? And, what are the appropriate regulatory options for local governments to consider when businesses and sign companies seek to introduce this technology in their communities? These questions are the focus of this session.

New Technology

Currently, the concern with the applications and regulation of on-premise digital sign technology is in its initial phase, marked by confusion among the planning and zoning community both as to how these signs work and how they can and should be regulated. Further adding to the confusion is the fact that the technology is evolving rapidly, offering exciting possibilities for new types of sign displays in exterior and interior environments. For example, during the opening ceremonies of the 2008

Beijing Olympics, the floor of the stadium was equipped with a 3000 sq m video digital screen that used very similar type LED technology.

Technically, digital signs are a more complex and graphically versatile technology than what planners are used to: internally or externally illuminated signs that present a fixed message. Rather than using incandescent lamps or fluorescent tubes as a light source, digital signs use light-emitting diodes (LEDs), a semiconductor-based light source. LEDs transmit across the visible, ultraviolet and infrared wavelengths, and can generate very bright colors. According to Wikipedia, when a light-emitting diode is forward biased (switched on), electrons are able to recombine with holes within the device, releasing energy in the form of photons. This effect is called electroluminescence and the color of the light (corresponding to the energy of the photon) is determined by the energy gap of the semiconductor. An LED is usually small in area (less than 1 mm^2), and integrated optical components are used to shape its radiation pattern and assist in reflection.

Key Issues with LED Signage

Digital sign manufacturers operate at the national level and that makes it difficult for local planners to have direct access to the technology before an application for a sign permit is made through a local sign company. In addition, there are no national standards for the production of digital signs; however, the sign industry, through the International Sign Association, is working with various states to develop such standards. In short, digital signs present planners with the question of how to regulate a type of sign that uses a new technology and is dynamic, rather than the static signs to which they are accustomed … and there is little guidance to answer that question. Thus, local government is asked to issue a permit for something it does not understand.

Assuming the local government does not have any regulations that are specific for digital sign technology, what does it do? Usually it will copy another community's requirements. But how were those regulations developed? Most local governments have limited experience with LED signs, mainly from electronic billboards on highways, a small number of electronic message centers signs in commercial areas, and signs embedded in the monument signs of houses of worship and administration

buildings. In fact, most of the reaction to digital signs from APA and other groups is focused on the off-premise digital billboards with many studies looking at the issue of driver's safety when reading the bright and changeable billboard messages. Research by the Federal Highway Administration and the Transportation Research Board has been examining digital signs along highways. In addition, APA has reviewed a few communities that have enacted amendments to their sign codes to address digital signs, mainly focusing on digital billboards. These studies do not directly help the local planner and zoning regulator with the enactment of local regulations to manage on-premise LED-based signs. Specific knowledge from research of commercial environments at the local level where digital signs will need to be incorporated into the existing signs and visual character is not yet available. That said, the International Sign Association has been funding research to address key aspects of digital signs and is working with the States to develop standards.

Electronic Message Center Sign Luminance

An important question is: What level of digital sign brightness is acceptable at night? Many local sign ordinances include standards and guidelines for commercial signs that employ a variety of light source types (fluorescent, neon, incandescent and high intensity discharge such as mercury, metal halide or high pressure sodium). These signs have a fixed message. The lamps inside the sign illuminate letters or symbols that do not have the ability to change what is displayed on the sign: a graphic that was approved by the building/zoning department. In these signs, the only change possible is through switching on or off or dimming certain parts of the sign.

Digital signs, on the other hand, use LEDs and the sign face consists of a multitude of closely spaced dots of pixels or light elements similar to a television screen. These signs are controlled by a computer and their message can change and be displayed as a colored image on the sign's face. As a result, the brightness of the displayed image changes according to the program that drives it and the sign can produce varying levels of luminance. Consequently, the regulation of lighting limits will depend on the signage graphic display program, its location within an environmental zone (*i.e*. dense urban areas where there is much electric light as opposed to 'darker'

suburban and exurban areas), the size of the sign, and the distance from which it is seen.

At present, most communities that regulate the luminance of on-premise digital signs have merely copied the standards that have been previously applied to digital billboards. Typically, these currently call for a maximum luminance of 5000 nits during daylight hours and 500 nits at night; however, the daylight luminance will likely be increasing to 7,500 nits based on discussions between the off-premise industry and the federal government.

Methodologies are being developed that will allow to compute new maximum levels of luminance depending on the factors explained, and their placement and proximity to residential areas.

Changing Display Message and/or Image

The programmable change of messages and/or images in a combination with vivid colors and graphics makes digital signs unique. Digital signs have the ability to accommodate any changing display pattern through the computer program that drives them and turn on and off color and brightness to compose new images. Static signs do not change their message and/or image. Most sign ordinances do not permit flashing signs or 'light movement' on the sign. A key question with digital signs is: Should the number of changes in the display be regulated? If yes, how do we establish a practical and defensible number? What should the time interval (in seconds) be between each successive display frame? Currently, there are no unified standards among the local sign ordinances that have been amended to accommodate digital signs. Of the ordinances sampled/referenced, -most have considered the research done for billboards and have focused on driver distraction from changing messages. Approaches range from a complete ban on digitally changing graphics to the use of arbitrary guidelines and standards. Currently, many communities have adopted an 8 second static image requirement derived from an interim guidance recommendation issued by the federal government that governs off premise advertising signs/ billboards.

. However, as was pointed out, local commercial areas where on-premise signs are installed and are regulated are different than highways where off-premise billboards are located.

Digital Display Sign Size, Height, and Placement

Sign size and height have been key considerations of sign regulations. Almost all existing sign regulations have provisions for sign size that arbitrarily set total sign area without considering driving speeds, the driver's cone of vision, the sight distance needed to read a sign, or reaction time after the sign is read to make a decision to turn. The United States Sign Council has conducted considerable research on these issues and has developed standards and guidelines to address them effectively. In addition the Council has developed guidelines to be used to determine size of lettering so that it can be detected by the driver. On-premise digital signs need to be regulated on the basis of the standards and guidelines developed by the United States Sign Council and we will provide recommendations on how to address these and other issues with regard to the regulation of on-premise digital signs discussed during this session.

Current Practice

Based on a recent survey of numerous jurisdictions by one of the authors, the most common regulatory provisions applicable to digital on-premise signs appear below:

- Require that the sign display remain static for a minimum of 5- 8 seconds and require "instantaneous" change of the display; *i.e.*, no "fading" in/out of the message.
- Prohibit scrolling and animation outside of unique – and mostly pedestrian-oriented – locations.
- Limit brightness to 5,000 nits during daylight and 500 nits at night.
- Require automatic brightness control keyed to ambient light levels.
- Require display to go dark if there is a malfunction.
- Specify distancing requirements from areas zoned for residential use and/or prohibit orientation of s sign face towards an area zoned for residential use.

Opportunities for the Use of LED On-Premise Signage in the Local Commercial District

At the local commercial district or arterial strip the character of the environment and the driving speed are different than the highway where billboards are mostly located. The regulation of billboards at the local commercial districts varies from State to State and it is not really relevant to the regulation of on-premise signs. A typical commercial area already has many signs dispersed throughout a very loose mix of mostly freestanding buildings, parking lots, and utility poles and wires. Its character, including signage, evolved over a long period of time. The focus on the new technology and signs cannot ignore the existing spatial arrangements and the relationship with existing signs. Regulations will need to be applied in concert with the total environment, not by isolating these new signs. If planners were to apply a comprehensive approach to the management of signage, regulations for on-premise digital signs will be more effective and can also provide a way to 'visually decongest' existing strip commercial areas from ill-placed and ineffective signs.

Planners also need to consider differing approaches to digital signs for different types of zoning districts. What may be appropriate in a regional commercial district may well be "too little" signage for a downtown entertainment or sports arena district and "too much" for a neighborhood commercial district. In this regard, planners may want to consider using the "character areas" approach of the SFI Model Sign Code as a guide to the development of digital sign regulations that are tailored to specific zoning districts, as suggested below.

Character Area	Motion Limitation	Size Limitation		Could Apply to Part of Character Area
		EMCs as a Maximum % of the Total Sign Area Permitted on the Site	EMCs as a Maximum % of a Single Sign	
Downtown	8 seconds to Unlimited	30% to 100%	100%	Yes
Small Commercial - Suburban	8 seconds	30% to 50%	67%	No
General Commercial	8 seconds to Unlimited	30 % to 50%	80%	Yes
Highway Commercial (1)	8 seconds	30 % to 50%	80% to 100%	No
Mixed Use	8 seconds to 1 second	15% to 30%	50% to 80%	No
Offices	8 seconds to 1 second	15% to 30%	50% to 67%	No (2)
Industrial	8 seconds to Unlimited	30% to 50%	50% to 80%	No (2)

(1) Assumes that Highway Commercial is a relatively small geographic area focused at a highway interchange
(2) Harder to make distinctions among various locations in the office and industrial zone.

UNITED STATES SIGN COUNCIL

Electronic Sign Zoning Information

Electronic signs and electronic message centers are finding increasing use in On-Premise sign systems. This class of signs, utilizing state of the art computer technology and capable of full color display, provides users with the capability of instantaneous change in the display of graphic images or message content.

Because of their unique capabilities, existing local sign regulation is frequently incapable of addressing their use over the full range of their operating characteristics. The following White Paper, entitled ***Regulation of Electronic Message Display Signs***, and produced by the Electronic Display Educational Resource Association (EDERA) is offered by USSC, without additional comment or endorsement, as a means of furthering the informational base necessary to allow for the proper use and functioning of electronic signs in local zoning jurisdictions.

REGULATION OF ELECTRONIC MESSAGE DISPLAY SIGNS

Overview

We are all very fortunate to live in a society that places a premium value on freedoms, and limits governmental intrusion upon those freedoms. Freedom of speech is one of those essential freedoms, and one that is embodied within the Constitution that molds the rule of law governing this great nation. Many reputable organizations, like the U.S. Small Business Administration and the International Sign Association caution against sign regulations that interfere with the freedom of exercising commercial speech.

The following information has been assembled by a coalition of manufacturers of electronic message display signs. We recognize the uncertainty surrounding the legality of certain sign regulations. We also respect the desire by communities to regulate signs, including electronic message display signs, and the need for responsible sign codes. Without engaging in debate over the legality of regulations affecting electronic message displays, the following materials are intended to develop a more sophisticated understanding of the current state of the technology, and to promote regulations that reflect the broad variations in the use of electronic message displays.

The History of Changeable Message Signs

In the day when signs were primarily painted, changing messages on a sign merely required painting over the existing message. More recently, signs with removable lettering made it possible to manually change the lettering on a sign to display a new message. Electrical changeable message signs followed the invention of the light bulb, and included light bulbs arranged in a pattern where, by lighting some light bulbs and not the others, letters and numerals could be spelled out.

With the advent of solid-state circuitry in the early 1970s, electronic changeable message signs became possible. The first of these products were time and temperature displays and simple text message displays using incandescent lamps. These lamps were very inefficient. They used a great deal of power and had short life expectancies.

During the energy crunch of the 1980s, it became necessary to find ways to reduce the power consumption of these displays. This need initially spawned a reflective technology. This technology typically consisted of a light-reflective material applied to a mechanical device, sometimes referred to as "flip disk"

displays. Electrical impulses were applied to a grid of disks with reflective material on one side of the disk, and a contrasting finish on the other side. The electrical impulses would position each disk within the grid to either reveal or conceal the reflective portion of the device as required, to produce an image or spell out a message. These technologies were energy efficient, but due to the mechanical nature of the product, failures were an issue.

Shortly after the introduction of the reflective products, new incandescent lamps emerged. The new "wedge base" Xenon gas-filled lamps featured many positive qualities. Compared to the larger incandescent lamps that had been used for several years, the wedge base lamps were very bright, required less power to operate and had much longer lifetimes. These smaller lamps allowed electronic display manufacturers to build displays that featured tighter resolutions, allowing users to create more ornate graphic images.

Next in the evolution of the changeable message sign was the LED. LED (light emitting diode) technology had been used for changeable message displays since the mid 1970s. Originally, LEDs were available in three colors: red, green and amber, but were typically used for indoor systems because the light intensity was insufficient for outdoor applications and the durability of the diodes suffered in the changing temperatures and weather conditions. As technology improved, manufacturers were able to produce displays that had the intensity and long life required for outdoor use, but were limited in the viewing angle from which they could be effectively seen.

Recently, breakthroughs in this field have made available high intensity LEDs in red, green, blue and amber. These LEDs have made it possible to produce displays bright enough for outdoor use with viewing angles that are equal to, or better than, other technologies currently available. They are energy-efficient, can be programmed and operated remotely, and require little maintenance. In addition, the computer software has evolved such that a broad range of visual effects can be used to display messages and images. The spacing of the LEDs can be manipulated to achieve near-television resolution. Earlier "flip disk" and incandescent technologies have become nearly obsolete as a result.

Types of Changeable Message Signs

Changeable message signs can be placed into two basic categories: manually-changed and electronically-changed. The most common form of manually-changed sign involves a background surface with horizontal channels. Letters and numerals are printed on individual plastic cards that are manually fitted into the channels on the sign face. A broad range of letter styles and colors are available. The manually-changed sign is relatively inexpensive and is somewhat versatile. Some discoloration has been experienced in the background surface materials

with exposure to weather and the sun. Changing the message on such a sign is accomplished by having an employee or technician remove the existing plastic letter cards and replacing them with cards displaying the new message. Occasionally, such signs have been the subjects of vandals who steal the letters or, as a prank, re-arrange them to spell out undesirable messages. Over time, as letters are replaced with lettering styles that deviate in color or type style from the original set, such signs have had a tendency to take on a mix-and-match appearance.

Electronic changeable message signs are generally of two types: light emitting and light reflective. Current light emitting display technologies include LED and incandescent lamp. Light reflective displays typically consist of either a reflective material affixed to a mechanical device (like a "flip disk") or a substance commonly referred to as electronic ink.

Many of the above mentioned technologies have the capabilities to display monochromatic (single color) or multiple color images. Monochrome changeable message signs are typically used to display text messages. Multiple color displays are more common in applications where color logos or video is displayed.

Operational Capabilities of Electronic Signs

Electronic signs have evolved to the point of being capable of a broad range of operational capabilities. They are controlled via electronic communication. Text and graphic information is created on a computer using a software program. This software is typically a proprietary component that is supplied by the display manufacturer. These software programs determine the capabilities of the displays. The software is then loaded onto a computer that operates the sign. The computer may be installed within the sign itself, operated remotely from a nearby building, or even more remotely by a computer located miles away and connected to the sign with a telephone line modem or other remote communication technology.

Since most of the software programs are proprietary, one can assume that each software program is slightly different. However, the capabilities that the programs offer are all very similar. Changeable message sign manufacturers provide software that allows the end user to be as creative or as reserved as they like. The sign can be used to display static messages only, static messages changed by a computer-generated transition from one message to the next, moving text, animated graphics and, in some applications, television-quality video.

Text messages or graphic images can simply appear and disappear from the display or they can be displayed using creative entry and exit effects and transitions.

Example:
Oftentimes a display operator will choose to have a text message scroll onto the display and then "wipe-off" as if the frame has been turned like the page of a book.

If a display has the capabilities to display graphics, logos or even video, it is common for the display operator to add motion to these images.

Example:
A display operator at a school may wish to create an animation where their school's mascot charges across a football field and runs over the competing school's mascot.

Video-capable displays can operate much like a television. These displays can show live video, recorded video, graphics, logos, animations and text.

All display capabilities are securely in the hands of the display operators. They are ultimately responsible for what type of, and how, information is displayed on their changeable message sign.

Traffic Safety Considerations

Electronic message displays (EMDs) are capable of a broad variation of operations, from fully-static to fully-animated. In exterior sign use, they are often placed where they are visible to oncoming traffic. Concerns are often raised as communities change their sign codes to expressly permit such signage about the traffic safety implications for signage with moving messages. These concerns are largely unfounded.

EMDs have been in operation for many years. As is typical with many technological advances, the regulatory environment has been slow to respond to advances in the technology itself. In 1978, after many years of the use of electronic signs, Congress first passed legislation dealing with the use of illuminated variable message signs along the interstate and federal aid primary highway system. The Surface Transportation Assistance Act permitted electronic message display signs, subject to state law, provided each message remained fixed on the display surface but "which may be changed at reasonable intervals by electronic process or remote control," and did not include "any flashing, intermittent or moving light or lights." *23 U.S.C. § 131*.

In 1980, and in response to safety concerns over EMDs along highways, the Federal Highway Administration published a report titled *"Safety and Environmental Design Considerations in the Use of Commercial Electronic Variable-*

Message Signs." This report was an exhaustive analysis of the safety implications of EMDs used along highways. The report highlights the inconclusive nature of safety studies that had occurred to that time, some concluding that roadside signs posed a traffic distraction, and others concluding that roadside signs do not cause traffic accidents. In view of the inevitable use of the technology in signage, the report made some sensible observations about traffic safety considerations for such signs:

1. *Longitudinal location*. The report recommended that spacing standards be adopted to avoid overloading the driver's information processing capability. Unlike the standard for sign regulations in 1980, most communities today have spacing standards already integrated into their sign codes.

2. *Lateral location*. Often referred to as "setback," the report initially recommended the common sense requirement that such signs be placed where the risk of colliding into the sign is eliminated. This was a legitimate concern, as such signs were being contemplated for use by highway departments themselves in the right-of-way. Private use of roadside signs is generally limited to locations outside the right-of-way, so this should not be a significant concern. The next issue addressed by the report was visibility. The report advocated the minimum setback feasible, stating that "standards for lateral location should reduce the time that drivers' attention is diverted from road and traffic conditions. Generally this suggests that signs should be located and angled so as to reduce the need for a driver to turn his head to read them as he approaches and passes them." This can best be handled by permitting such signs to be located at the property line, with no setback, and angled for view by oncoming traffic.

3. *Operations: Duration of message on-time*. The report states that the duration of the message on-time should be related to the length of the message, or in the case of messages displayed sequentially, the message element. For instance, based on state highway agency experience, "comprehension of a message displayed on a panel of three lines having a maximum of 20 characters per line is best when the on-time is 15 seconds. In contrast, the customary practice of signing which merely displays time and temperature is to have shorter on-times of 3 to 4 seconds." Since this 1980 report, state highway agencies have adopted, for use on their own signs, informal standards of considerably shorter "on" time duration, with no apparent adverse effects on traffic safety. Federal legislation affecting billboard use of electronic signs

requires only that messages be changed at "reasonable intervals."[1] Moreover, the U.S. Small Business Administration, in a report on its website reviewing safety information compiled since the 1980 report, has concluded that there is no adverse safety impact from the use of EMD signs. See http://www.sba.gov/starting/signage/safelegal.html. The most recent study was performed in 2003 by Tantala Consulting Engineers, available through the U.S. Sign Council at http://www.ussc.org/publications.html, also concluding based on field studies that EMD signs do not adversely affect traffic safety. Many small businesses using one-line EMD displays are only capable of displaying a few characters at one time on the display, changing frequently, which takes virtually no time for a driver to absorb in short glances. These signs have likewise not proven to be a safety concern, despite many years of use.

4. *Operations: Total information cycle*. EMD signs can be used to display stand-alone messages, or messages that are broken into segments displayed sequentially to form a complete message. As to the sequential messages, the report recommended a minimum on-time for each message "calculated such that a motorist traveling the affected road at the 85th percentile speed would be able to read not more than one complete nor two partial messages in the time required to approach and pass the sign."

5. *Operations: Duration of message change interval and off-time*. The report defines the message change interval as the portion of the complete information cycle commencing when message "one" falls below the threshold of legibility and ending when message "two" in a sequence first reaches the threshold of legibility. This is relevant when operations such as "fade off-fade on" are used, when the first message dissolves into the second message, or when the two messages move horizontally (traveling) or vertically (scrolling) to replace the first message with the second. Off-time, on the other hand, is a message change operation that involves the straightforward turning off of the first message, with a period of blank screen, before the second message is instantly turned on.

[1] The appropriate interval of message change may be affected by a variety of factors, and one standard does not fit all situations. Imagine, for instance, a bridge that serves two roadways, one with a speed limit of 30 mph and the other a highway with a speed limit of 60 mph. In a situation where the bridge is socked in by fog, an electronic sign on the approach to the bridge may be used to convey the message, "Fog ahead…on bridge…reduce speed…to 15 mph." The driver on each roadway needs to see all the segments to the full message. The rate of changing each segment of the message needs to be different for each roadway. If the change rate were based only on the 60 mph speed, the sign on the slower roadway may appear too active. If the change rate were based only on the 30 mph speed, the result could be fatal to drivers on the highway.

The report takes an extremely conservative approach as to message change interval, advising against the use of operations other than nearly instantaneous message changes. If such operations are permitted, the report suggests "that the figure commonly used as a measure of average glance duration, 0.3 second, be used here as a maximum permissible message change time limit." The report further advocates minimizing off-time between messages, where static message changes are used, stating that "[a]s this interval of off-time is lengthened, the difficulty of maintaining the continuity of attention and comprehension is increased."

The conservative nature of the authors' position is reflected both in the report, and in over twenty years of practice since the report was issued. The report cites studies indicating that, in some situations, the use of electronic operations had a beneficial effect on traffic safety, by creating a more visually-stimulating environment along an otherwise mind-numbing segment of highway, helping to re-focus and sharpen the driver's attention to his or her surroundings.

In over twenty years of experience, with numerous electronic signs nationwide utilizing the various operational capabilities for message change, there has been no significant degradation to highway safety reported. Many electronic signs used by highway departments now use a mode of transition between messages or message segments, such as traveling or scrolling. Drivers are apparently capable of attaching primacy to the visual information most critical to the driving task, with sign messages taking a secondary role.

The report further expresses its limited focus upon interstate and federal aid primary highways. Noting the stimulating visual environment created by full-animation signage in places like Times Square, Las Vegas and Toronto's Eaton Centre, the authors of the report agreed that such signs added vitality and dimension to the urban core, but discouraged the use of animation alongside the highway. The report did not deal with the use of such signs, or their operational characteristics, on roadways between the extremes of the interstate highway and the urban core. In addition, animation has now been used on highway-oriented signs in many locations for years, with no reported adverse effect of traffic safety.

In sum, the report acknowledged the appropriateness of full-animation electronic signs within the urban core, but recommended that full-animation not be used along interstate and primary highways. It took a conservative position on operations of such signs along highways, advocating static message change sequences only, with no more than 0.3 seconds of message

change interval or "off-time" between messages. The message changes on sequential segmented messages should be displayed such that a motorist can see and read the entire chain of message segments in a single pass. Messages should be permitted to change at "reasonable intervals." Such signs should have adequate spacing between signs, but be set back from the right-of-way as little as feasible.

Since 1980, no new information has become available supporting a traffic safety concern about EMDs. They have been installed in highway locations, along city streets and in urban core settings, using all forms of operations: static, sequential messaging and full animation. Despite such widespread use, and the presence of environmental organizations generally adverse to sign displays, no credible studies have established a correlation between EMDs and a degradation in traffic safety.

An article in the *Journal of Public Policy and Marketing* in Spring, 1997, arrived at the same conclusion. Professor Taylor, of Villanova University, analyzing this lack of data to support such a correlation, concluded that "there appears to be no reason to believe that changeable message signs represent a safety hazard."

From a safety standpoint, and based on the studies and practical experience that has been accumulated since the widespread use of EMDs, some conclusions can be reached:

- In an urban core setting, where a sense of visual vitality and excitement is desirable, full-animation EMDs have been shown to be viable without degrading traffic safety.

- In an urban setting, such as along arterial streets, EMDs have been used with static messages changed by use of transitions such as traveling, scrolling, fading and dissolving, without any apparent impact on traffic safety. Quite likely, this can be attributed to the primacy of the navigation task, and the secondary nature of roadside signage.

- Along interstate and other limited access highways, the only significant traffic safety analysis recommends the use of static messages only, and the federal government permits message changes at "reasonable intervals." Many highway departments change messages on their own signs every 1-2 seconds. The report further recommends that sequential messages be timed to ensure that the entire sequence of messages be displayed in the time it takes a car to travel from initial legibility to beyond the sign. In practice, and in the 20+ years since publication of this report, the operational characteristics of such signs have been expanded to include

fading, dissolving, scrolling and traveling, without any apparent adverse effect on traffic safety.

Regulation of Electronic Signs

The history of the regulation of electronic signs has been largely marked by polar extremes in regulation. A number of zoning and sign codes have treated such signs as any other sign, with no special regulations. Others have attempted to prohibit their use in the entirety, largely out of concerns for traffic safety, and in some cases in the stated interest of aesthetics.

For the reasons stated above, the traffic safety concerns have been largely unfounded. In decades of use and intense scrutiny, no definitive relationship between electronic signs and traffic accidents has been established. In fact, some studies have suggested that animated electronic signs may help keep the driver whose mind has begun to wander re-focused on the visual environment in and around the roadway. No studies support the notion that an electronic sign with a static display has a visual impact, from either a traffic safety or aesthetic impact, different from that of any other illuminated sign.

Despite this, the fear of negative impact from potentially distracting signs has in the past motivated some communities to attempt to prohibit electronic signs altogether. Two common approaches have been to prohibit sign "animation" and the "intermittent illumination" of electronic signs. Both approaches have had their limitations.

Electronic signs that are computer-controlled often have the capability to be displayed with a multitude of operational characteristics, many of which fall within the typical definition of "animation." However, static display techniques are quite commonplace with electronic signs, and the cost of using electronics in relatively typical sign applications has become more affordable. The programming of an electronic sign to utilize static displays only is simple and straightforward, yet probably overkill in the legal and practical sense.

Nonetheless, out of fear that the programming may be changed to animation after a sign is permitted and operational, some local regulators have attempted to take the position that LED and other electronic signs are prohibited altogether. This position is unsound. There is no legal basis to deny a static-display electronic sign, as it is legally indistinguishable from any other illuminated sign. We don't prohibit car usage merely because the cars are designed so that they *can* exceed the speed limit; we issue a ticket to the driver if they *do* exceed the speed limit. Likewise, if a sign owner *actually* violates the zoning or sign code, the remedy is to cite them for the violation, not to presume that they will do so and refuse to issue

permits at the outset. Moreover, most communities permit changing messages on signs displaying time and temperature, with no restrictions on timing. To apply a different standard to signs displaying commercial or noncommercial messages would be to regulate on the basis of the content of the sign, in violation of the First Amendment to the U.S. Constitution.

The code technique of prohibiting "intermittent illumination" has its own limitations as it relates to electronic signs. The term "intermittent" suggests that the sign is illuminated at some times, and not illuminated at others. This is no basis to distinguish between an electronic sign and any other illuminated sign. Virtually all illuminated signs go through a cycle of illumination and non-illumination, as the sign is turned off during the day when illumination is not needed, or during the evening after business hours. If this were the standard, most sign owners would be guilty of a code violation on a daily basis.

Other terminology may be used in sign codes, but the fact is that a regulation must be tailored to the evil it is designed to prevent. Community attitudes toward viewing digital images have changed nationwide, with personal computer use and exposure to electronic signs becoming widespread. People are simply accustomed to the exposure to such displays, more so than in years past. In some communities, there remains a concern about the potential that such signs may appear distracting, from a safety or aesthetic standpoint. Yet, static displays do not have this character, and even EMDs with moving text have not proven to have any negative impact. The real focus should be on the operations used for the *change* in message, and frame effects that accompany the message display. Many of these transition operations and frame effects are quite subtle, or otherwise acceptable from a community standpoint. It is now possible to define these operations, in the code itself, with sufficient specificity to be able to enforce the differences between what is acceptable and what is not.

The critical regulatory factors in the display of electronic changeable message signs are: 1) Duration of message display, 2) Message transition, and 3) Frame effects. With the exception of those locations where full animation is acceptable, the safety studies indicate that messages should be permitted to change at "reasonable intervals." Government users of signs have utilized 1-2 seconds on their own signs as a reasonable interval for message changes, and other communities permit very short display times or continuous scrolling on business signs without adverse effect. As a policy matter, some communities have elected to adopt longer duration periods, although to do so limits the potential benefits of using an electronic sign, particularly where messages are broken down into segments displayed sequentially on the sign.

The message transitions and frame effects are probably the greater focus, from a sign code standpoint. It is during the message transition or frame effect that the eye is most likely drawn to the sign. What is acceptable is a matter of community

attitude. Flashing is a frame effect that is prohibited in many communities, but other more subtle transitions can be accepted. It is relatively easy to define four basic levels of operational modes for message transitions that can be incorporated into a sign code:

Level 1 *Static Display Only (messages changed with no transition)*

Level 2 *Static Display with "Fade" or "Dissolve" transitions, or similar subtle transitions and frame effects that do not have the appearance of moving text or images*

Level 3 *Static Display with "Travel" or "Scrolling" transitions, or similar transitions and frame effects that have text or animated images that appear to move or change in size, or be revealed sequentially rather than all at once*

Level 4 *Full Animation, Flashing and Video*

There are, in fact, other operations recognized within the industry. However, in practice they can be equated in visual impact with "fade," "dissolve," "travel" or "scrolling," based on their visual effect, or otherwise be considered full animation.

Different transition operations may be acceptable in different locations. For example, communities like Las Vegas accept full animation as a community standard, whereas others accept full animation only in urban core locations where a sense of visual vitality and excitement is desirable. Some communities may desire not to have an area with such visual stimuli, and elect to prohibit animation everywhere. However, in such a community, fade or scrolling may be acceptable forms of message transitions for static displays. In the most conservative communities, static displays with no observable transition between messages may be the only acceptable course.

The next decision point for a community seeking to regulate electronic signs is procedural. Some signs may be acceptable always, while the community may determine that others are acceptable only in certain given circumstances. Alternatives to be considered for a sign code are as follows:

- Permit electronic signs "as a matter of right"
- Permit electronic signs with certain transitions "as a matter of right"
- Permit electronic signs, subject to a review procedure

- Permit electronic signs, with certain transitions, subject to a review procedure

- A hybrid of the above

For instance, one community may find it acceptable to permit electronic signs, with full animation, as a matter of right. Other than a straightforward sign permit, no other review is required. In another community, the sign code structure may permit: 1) Static displays with no transitions as a matter of right, 2) static displays using fade or dissolve transitions as a matter of right in certain commercial zoning districts, 3) static displays using travel and scrolling transitions and animations in certain commercial districts, subject to approval of a special use permit, where the approving board can consider compatibility with surrounding land uses and attach conditions on the rate of message changes, and 4) Fully-animated/video displays in the downtown commercial district only, subject to approval of a special use permit. The level of procedure involved should be tailored to the acceptance level of the community, and the resources available should public review be desired.

In the following section, we have provided model code language that can be used, for reference, to incorporate into a community's sign code. The model language suggests code scenarios based on each of the four levels of display transitions. It also provides alternative language, for some scenarios, to either incorporate a special review procedure or not. Of course, the model language must be tailored to a particular community's sign code. Variation may be necessary, where, for instance, the special review procedure would be by the local planning commission, city council or design review board. With ease, the model code language can be modified to meet local conditions.

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Model Sign Code Provisions for Electronic Signs

Level 1-Static Display *(Message Changed with no Transition)*

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts] subject to the following requirements:

a. *Operational Limitations*. Such displays shall contain static messages only, and shall not have movement, or the appearance or optical illusion of movement, of any part of the sign structure, design, or pictorial segment of the sign, including the movement or appearance of movement of any illumination or the flashing, scintillating or varying of light intensity.
b. *Minimum Display Time*. Each message on the sign must be displayed for a minimum of (insert reasonable interval) seconds.
c. *Message Change Sequence*. [Alternative 1: The change of messages must be accomplished immediately.] [Alternative 2: A minimum of 0.3 seconds of time with no message displayed shall be provided between each message displayed on the sign.]

Model Electronic Sign Code Provisions
Level 2-Static Display *(Fade/Dissolve Transitions)*

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

DISSOLVE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity or pattern, where the first message gradually appears to dissipate and lose legibility simultaneously with the gradual appearance and legibility of the second message.

FADE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity, where the first message gradually reduces intensity to the point of not being legible and the subsequent message gradually increases intensity to the point of legibility.

FRAME – a complete, static display screen on an Electronic Message Display.

FRAME EFFECT – a visual effect on an Electronic Message Display applied to a single frame to attract the attention of viewers.

TRANSITION – a visual effect used on an Electronic Message Display to change from one message to another.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts] subject to the following requirements:

a. *Operational Limitations.* Such displays shall contain static messages only, changed only through dissolve or fade transitions, or with the use of other subtle transitions and frame effects that do not have the appearance of moving text or images, but which may otherwise not have movement, or the appearance or optical illusion of movement, of any part of the sign structure, design, or pictorial segment of the sign, including the movement of any illumination or the flashing, scintillating or varying of light intensity.
b. *Minimum Display Time.* Each message on the sign must be displayed for a minimum of (insert reasonable interval) seconds.

Model Electronic Sign Code Provisions
Level 3-Static Display *(Travel/Scroll Transitions and Animations)*

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means.

DISSOLVE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity or pattern, where the first message gradually appears to dissipate and lose legibility simultaneously with the gradual appearance and legibility of the second message.

FADE – a mode of message transition on an Electronic Message Display accomplished by varying the light intensity, where the first message gradually reduces intensity to the point of not being legible and the subsequent message gradually increases intensity to the point of legibility.

FRAME – a complete, static display screen on an Electronic Message Display.

FRAME EFFECT – a visual effect on an Electronic Message Display applied to a single frame to attract the attention of viewers.

SCROLL – a mode of message transition on an Electronic Message Display where the message appears to move vertically across the display surface.

TRANSITION – a visual effect used on an Electronic Message Display to change from one message to another.

TRAVEL – a mode of message transition on an Electronic Message Display where the message appears to move horizontally across the display surface.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts] subject to the following requirements:

a. *Operational Limitations.* Such displays shall be limited to static displays, messages that appear or disappear from the display through dissolve, fade, travel or scroll modes, or similar transitions and frame effects that have text, animated graphics or images that appear to move or change in size, or be revealed sequentially rather than all at once.
b. *Minimum Display Time.* Each message on the sign must be displayed for a minimum of (insert reasonable interval) seconds.

Model Electronic Sign Code Provisions
Level 4-Video/Animation

Definitions

ELECTRONIC MESSAGE DISPLAY – A sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means, including animated graphics and video.

Electronic Message Displays may be permitted [with the approval of a use permit] [in the _____ zoning districts]