

ELECTRONIC SIGNS - POSSIBLE CONDITIONAL REVIEW PROCESS

Prepared by the Department of Planning and Community Development
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HISTORY & BACKGROUND:

The Design Commission first discussed the matter of electronic signage in 2007 relative to several specific sign variation requests, all of which were recommended for denial by Staff and the Design Commission, and one request denied by the Village Board. After detailed research by Staff, the Design Commission discussed the matter again in 2008 at a kick-off meeting and then in detail in 2009, when the Design Commission recommended that the Village continue to not allow electronic LED signs. Since then, the Design Commission has discussed this matter in 2012 as part of the Visual Preference Survey and in 2015 relating to Patton Elementary School's request for an electronic sign. As a result of the 2015 review, this topic was placed on the Design Commission agenda again in January 2016.

On February 19, 2016, Mayor Hayes sent a letter to the Design Commission requesting that the Design Commission complete the following tasks for Village Board review:

- Develop a general overview of the issues related to electronic signage.
- Report on a range of general approaches regarding electronic signage.
- Recommend an approach for the Village Board to discuss this matter by early June of that year.

In response to Mayor Hayes' request, Staff and the Design Commission completed a preliminary Village-wide study of electronic signage and discussed the matter at three Design Commission meetings:

- February 23, 2016. Kick-off meeting, preliminary discussion and thoughts.
- March 29, 2016. Staff presented a survey of other communities' electronic sign requirements along with photos and videos of electronic signs from other communities for discussion.
- April 12, 2016. Review and approval of Position Statement and Recommendations.

On July 18, 2016, the Design Commission's Position Statement & Recommendations regarding electronic signage was presented to the Village Board. The Design Commission's report outlined the issues related to electronic signs which included: Arlington Heights' image, nuisance to adjacent properties, traffic safety, code enforcement, and energy consumption. The report also included the Design Commission's recommendations regarding different possible applications for electronic signs, as follows:

- Electronic LED signs should not be allowed for commercial businesses community wide. Commercial signs should be used for business identity, not advertising.
- Electronic LED signs should not be allowed for major tourism venues. However, major tourism venues represent a possible good application for electronic signs, and they should be considered on a case-by-case basis as sign variations.
- Electronic LED signs should not be allowed for schools, churches, and park facilities which are commonly located in residential neighborhoods. However, non-light emitting electronic signage technology, such as electronic ink, should be closely monitored for use in these applications.
- Electronic LED signs should not be allowed along I-90 and Route 53 due to a possible unfair advantage for businesses fronting these highways, and to avoid contributing to signage blight along these highways.
- Electronic LED signs should not be allowed at this time, but emerging technologies in electronic signs should be monitored for more aesthetically pleasing, environmentally friendly alternatives to LED signs, such as electronic ink.

Highlights of the feedback provided by the Village Board at the meeting are as follows (the minutes of the Board meeting are attached):

- Allowing electronic signs in Arlington Heights should be explored to maintain a competitive advantage and/or level playing field with surrounding communities, at least on a limited basis.
- Electronic signs may be appropriate in some applications to promote businesses, if done properly.
- Electronic signage should not be permitted by right, but a special review process should be explored.
- Concern that electronic signs may proliferate, even with a special review process.
- Concern over unintended consequences.
- Concern regarding enforcement.
- The desire of businesses to have electronic signs must be balanced with the Village's ability and duty to make the Village look good.
- Sign variations for electronic signs may be the best process in some cases, such as major tourism venues.
- Electronic ink would be a better option if it had a full color display.
- Concern about waiting for new sign technology, such as electronic ink, to become readily available.

At the conclusion of the July 18, 2016 meeting, Staff was directed by the Village Board to further research and draft a special use process to allow electronic signage that meets certain conditions.

In follow up to the Village Board meeting, Staff has met with the Metropolis Theater about a possible electronic theater marquee sign, and met with Arlington Racecourse regarding a possible electronic billboard sign facing Route 53. It was discussed that, due to the unique nature of both of these requests, sign variations will be required no matter what regulations the Village were to draft. Recently, Arlington International Racecourse submitted a sign variation application for a 60' wide x 20' tall (95' overall height) electronic billboard to face Route 53.

Staff has also completed detailed research of other communities' electronic signage standards and approval processes. The results of this research helped guide the possible standards and Conditional Review process for Arlington Heights. Some of the commonly used standards for electronic signs include restrictions on the location of electronic signs along major roads only, minimum spacing between signs, and limitations when adjacent to residential zoning districts. Common operational restrictions include minimum display change times, no flashing/scrolling/animation/video, and brightness limitations.

CONDITIONAL REVIEW PROCESS, FEES AND CRITERIA:

In accordance with the Village Board's direction to explore a special approval process for the review of electronic signs, and after review of other communities' electronic sign standards and approval processes, the following draft Conditional Review Process and Possible Standards have been prepared. Based on concerns expressed by some Board members, research and legal requirements, allowing electronic signs for businesses located along primary commercial corridors has been vetted. This approach will allow electronic signs along major commercial nodes, and will minimize nuisance concerns within residential neighborhoods. The outcome of this approach can then be evaluated, including any unintended, undesirable consequences, as well as feedback from the community.

Conditional Review Process

In all cases, it is recommended that a Conditional Review Process be required for the approval of electronic message signs. The Conditional Review Process would be similar to the Special Use process before the Plan Commission, but this process would be sent to the Design Commission with their recommendation subject to final approval by the Village Board.

Conditional Review Fees

A \$500 conditional review application fee is suggested, plus standard permit fees. Annual inspection fees are still being explored for possible in-house or outsourced brightness monitoring along with annual inspection requirements.

Conditional Review Criteria

All requests for electronic message signs would need to comply with the following Conditional Review Criteria:

- Shall not create a traffic hazard or demonstrable negative impact on nearby properties, or be detrimental to the safety of persons residing or working in the vicinity; and
- Will serve the best interests of the Village of Arlington Heights, will be desirable for the public convenience, and not merely serve to provide the applicant with a competitive advantage over similar businesses; and
- The design of the sign shall be compatible with the essential character of the locality; and
- The business must demonstrate a valid need for an electronic message sign; and
- The proposed sign will comply with the regulations and conditions specified in this ordinance for such signage, and with the stipulations and conditions made a part of the authorization granted by the Village Board of Trustees.

POSSIBLE STANDARDS:

In all cases, the following electronic message sign standards are recommended.

Electronic Message Sign. A sign on which the message, copy, graphics, or display can be changed by remote or automatic means, used to advertise a business, goods, and/or services that are available on the property on which the sign is placed.

1. **Ground signs only.**
 - a. Allowed on monument style, ground signs only, 10 feet maximum height.
 - b. Not allowed on pole mounted signs.
 - c. Not allowed on wall signs.
 - d. All other ground sign requirements per Chapter 30 shall apply.
2. **Display.** Only high resolution, full color electronic displays shall be allowed.
3. **Size.** Size standards are consistent with existing manual change bulletin board sign requirements.
 - a. Electronic message signs must be incorporated as part of a conventional ground sign which displays the business name or use, and the electronic portion of the sign shall be the lower portion of the sign.
 - b. The maximum size of an electronic message sign shall be no more than 50% of the allowable ground sign size. For commercial businesses, the maximum allowable area of a ground sign is determined on the basis of the width and posted speed limit of the public right-of-way abutting the property on which the sign is located as set forth in Chapter 30, Section 30-303.c, Table A (see below):

TABLE A

	POSTED SPEED LIMIT	
WIDTH OF PUBLIC RIGHT-OF-WAY	35 MILES PER HOUR OR LESS	OVER 35 MILES PER HOUR
UP TO 66 FEET	40 SQ. FT. TOTAL SIGN AREA PER FACE	60 SQ. FT. TOTAL SIGN AREA PER FACE
OVER 66 FEET	66 SQ. FT. TOTAL SIGN AREA PER FACE	80 SQ. FT. TOTAL SIGN AREA PER FACE

4. **Quantity.** There shall only be one electronic message sign per property permitted.
5. **Spacing.** There shall be a minimum 300 feet spacing between electronic message signs on the same side of any street.
6. **Separation from Residential.** No electronic message sign shall be located within 300 feet of any residential property.
7. **Orientation.** The electronic message sign shall be oriented perpendicular to the roadway to minimize the impact on properties directly across the street from the location of the sign.
8. **Operational Standards**
 - a. Static display only. No scrolling, fading, flashing, animation, or video.
 - b. Frequency of message change. Messages must be displayed for a minimum of 10 seconds, as required by IDOT (Illinois Department of Transportation).
 - c. Brightness:
 - i. Auto-dimming photocell technology is required to adjust the display brightness based on ambient lighting conditions.
 - ii. Brightness shall be limited to .3 footcandles maximum above ambient lighting conditions at the established measurement distance based on the size of the sign (refer to formula below).

$$\text{Measurement Distance} = \sqrt{\text{Area of Sign Sq. Ft.} \times 100}$$

(Brightness restrictions are based on IESNA, Illuminating Engineering Society of North America, standards.)
 - iii. Written certification from the manufacturer is required to verify auto-dimming function, preset not-to-exceed .3 footcandles above ambient lighting conditions.
 - iv. Enforcement. Brightness enforcement shall be accomplished using a footcandle illuminance meter based on procedures as established by the International Sign Association (see attached).
 - d. Off-premises advertising not allowed.
 - e. Hours of sign operation shall be limited to the hours that the business is open, and as set forth in Chapter 30, Section 30-116 which states, "Illuminated signs located on a lot adjacent to or immediately across the street from any residential district shall be turned off at all times between the hours of 11:00 P.M. and 7:00 A.M. that the business is not in operation, unless the permittee shall show good cause to the Director of Building as to why the sign should not be turned off."
 - f. Sound not allowed.

EXPLORATION OF REMAINING OPTIONS:

Based upon feedback from the Village Board meeting, the following remaining options have been further explored.

Option 1. Allow limited applications of electronic message signage through a conditional review process:

The Village Board directed Staff to vet out options for limited applications of electronic message signage based upon practical and legal restrictions. As a result, limiting electronic message signs to specified primary commercial corridors has been explored. Due to a recent ruling by the U.S. Supreme Court regarding the Reed vs. Town of Gilbert case, there are legal concerns with restricting electronic signage by use type. In regards to major tourism venues, sign variations will be required no matter what regulations the Village were to draft due to the unique nature of these businesses.

- A. Allow by Use. Due to a recent ruling by the U.S. Supreme Court regarding the Reed vs. Town of Gilbert case, there are legal concerns with restricting electronic signage by use.
- B. Major Tourism Venues. Major tourism venues such as Arlington International Racecourse, the Metropolis Theater, and the Downtown movie theater may be good applications for electronic signage. However, it would be challenging to draft code language and to predict the possible impacts for these unique, individual electronic sign applications. Therefore, it is recommended that the review of electronic sign requests for major tourism venues be handled through the sign variation review process.
- C. Allow by specific Commercial Corridors or Overlay Districts. If electronic message signs are to be allowed, some Board members suggested to start small, allowing them in limited applications only. Allowing electronic signs for businesses located along primary commercial corridors only will allow businesses located along commercial corridors or commercial nodes to have electronic signs, and will minimize the nuisance within residential neighborhoods. This will, however, mean that schools, parks and churches will not be able to use this process since most are located in residential districts. This approach will provide the opportunity to evaluate the outcome and monitor any undesirable, unintended consequences, and to receive community feedback. Refer to the attached map titled, "Major Arterial Roads & Primary Commercial Corridors" to see the locations throughout Arlington Heights that have been identified as being primary commercial corridors where electronic signs could be allowed. Also, for an example of community feedback, refer to the attached news article titled "Palatine rejects car wash's electric sign proposal" dated 8/9/16.

Option 2. Allow by Sign Variation only.

Reviewing requests for electronic message signs via the sign variation process would allow the greatest legal control and flexibility over the amount of electronic message signs that get approved, and the applicable restrictions for each sign. Each sign would be reviewed on a case-by-case basis based on necessity, hardship, and unique circumstances. As previously stated, Staff believes this is the only viable option for unique major tourism venues.

Option 3. Monitor Emerging Technology.

Continue to not allow electronic message signs at this time, but monitor the developments in electronic sign technology for new, aesthetically pleasing, environmentally friendly alternatives to LED electronic signs.

At the Village Board meeting, several members expressed interest in the concept of electronic ink signage. Since the meeting, there has been further development in electronic ink outdoor signage relating to full color displays and climate conditions. Electronic ink mimics the look of printed ink on paper, but the message can be electronically changed. Electronic ink emits no light, and is highly readable in bright sunlight, whereas LED signs are bright and glaring. Electronic ink is also environmentally friendly with ultra-low power consumption. Electronic ink signage represents an excellent alternative to bright LED signage which requires non-stop power consumption. Electronic ink signage is an ideal option for schools, churches, and park district facilities where brightness and glare are of particular concern in residential neighborhoods.

At the Village Board meeting, there were questions about the capability of electronic ink signage to have a full color display as well as the operability of this technology in cold weather climates. Since that time, a new full-color electronic ink outdoor signage product named "Soofa Sign" has become available. Soofa signs utilize a full color electronic ink display powered by a solar panel. These signs are currently installed in Boston, Massachusetts, which has a cold climate, and they are planned for select early adopter cities across the United States as part of a pilot program. The Village of Arlington Heights has applied for the pilot program to possibly receive free electronic ink kiosk signs for testing in our Downtown as a replacement for our printed ink marketing

poster kiosks. Refer to the attached "Soofa Sign" product data. If this technology continues to develop, it represents an excellent alternative to electronic LED signage.

NEXT STEPS:

At this time, Staff is seeking feedback and direction from the Village Board on the preferred option for allowing electronic message signs along commercial corridors, the draft Conditional Review Process/Criteria, and the suggested Standards for electronic message signs. Unless objections are received, the next step will be for Staff to draft the specific ordinance for sign code modifications for electronic message signs. The Village Board should direct whether the Design Commission should review and provide input on the sign code modifications prior to Village Board approval or not.

ATTACHMENTS:

1. Major Arterial Roads & Primary Commercial Corridors Map, dated January 31, 2017.
2. Extracts from the International Sign Association report titled "Night-time Brightness Level Recommendations for On-Premise Electronic Message Centers", updated August 2016.
3. Soofa Sign product data.
4. Electronic Signs, Design Commission Position Statement & Recommendations, approved April 12, 2016. (1)
5. Village Board Meeting Minutes, July 18, 2016.
6. Newspaper article, "Digital Billboard Plan Heads to Rolling Meadows Council", dated May 27, 2015.
7. Newspaper article, "Palatine rejects car wash's electric sign proposal", dated August 9, 2016.

(1) If Board members would like the full report re-issued, please contact Staff.

RESEARCH

Night-time Brightness Level Recommendations for On-Premise Electronic Message Centers

Updated August 2016

PRODUCED BY:



INTERNATIONAL SIGN ASSOCIATION

INTRODUCTION

ELECTRONIC MESSAGE CENTERS (EMCs)

Electronic message centers, or EMCs, continue to grow in popularity for business and community use. You may have heard EMCs being referred to as changeable message displays or digital signs.

EMCs are *not* digital billboards, which advertise a good or service that is located away from the sign. Rather, EMCs are digital signs that are located *on the premises*, and that advertise goods and services that are available at the location.



Electronic Message Center (EMC)/on-premise sign advertising a bank that is located on the same premises as the sign



Digital billboard/off-premise sign advertising an automobile business in another location

There is often confusion regarding on- and off-premise digital signs. However, EMCs and digital billboards have very distinct capabilities and purposes, each targets a specific audience and each has traditionally been treated under separate legal and regulatory regimes, a zoning practice which was noted in the 2015 U.S. Supreme Court ruling in *Reed v. the Town of Gilbert*. For the purposes of this publication, we are focusing solely and exclusively on EMCs.

EMCs that are too bright at night can be offensive and ineffective. Night-time EMC brightness is an issue where sign users, the sign industry, and local offices have a common goal: ensuring that EMCs are appropriately legible. We know the messages that these signs convey can be rendered unattractive and perhaps even unreadable if they are programmed too bright.

That's why many sign companies recommend to their customers that in order for these signs to be most effective, their brightness be set at such a level to be visible, readable and conspicuous.



The International Sign Association (ISA) retained noted lighting expert Dr. Ian Lewin of Lighting Sciences to help the industry develop scientifically-researched, understandable recommendations for EMC brightness. Dr. Lewin was a past chair of the Illuminating Engineering Society of North America (IES), and was greatly respected within the lighting field. His work for ISA was conducted with the input of experts within the sign industry.

*As a result of his research, Dr. Lewin recommended two different brightness settings based on whether the EMC was located in an area of high or low ambient light. After field testing and utilizing Dr. Lewin's recommendations, it was determined that using the more conservative recommendation is appropriate in areas of both low and high ambient light. In order to simplify Dr. Lewin's recommendations, and to take a more reasonable approach to ensure that EMCs are sufficiently visible but not overly bright, **it is recommended that EMCs not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.***

The research and the recommendations contained in this report pertain only to EMCs, not traditionally internally illuminated signs, such as these channel letter and neon signs below. EMCs use a different lighting technology than most of these types of signs, and as such the scientific approach differs.

Community leaders should understand that, while it is recommended that brightness measurements be taken perpendicular to the sign, sign viewers rarely see the sign at that same perpendicular approach. At any viewing point away from or off the forward angle, the apparent brightness will be reduced. In other words, the measurements will capture the recommended brightness levels, but, unless viewers are looking at the sign directly perpendicular, they will not perceive the brightness at the full level.

We have provided recommended statutory language and tips to measure brightness with and without control of the EMC. If you need further assistance, feel free to contact ISA, signhelp@signs.org or at (703) 836-4012 to answer any of your EMC questions.



FOOTCANDLES VS. NITS: WHICH MEASUREMENT IS BETTER?

This document recommends communities adopt illumination measurements in footcandles as compared to nits. Here are a few reasons why more than 200 localities and many state departments of transportation have adopted the footcandle measurement for EMCs:

FOOTCANDLES

- Measures illuminance
- Accounts for ambient light conditions
- Luxmeter measuring device \$ 100
- "Twilight" measurement possible
- Measures light impact and appearance
- Works with roadway lighting standards
- Easier to check and enforce

NITS

- Measures luminance
- Measures only the amount of brightness emitted
- Luminance spectrometer (nit gun) - \$ 1,000
- Does not allow adjustment based on ambient light
- Does not measure appearance
- Difficult to measure accurately
- Difficult to enforce

* While the main advantage of using nits as compared to footcandles is that daytime measurement is possible, EMC brightness is typically more of an issue at night.

EXECUTIVE SUMMARY

ISA ELECTRONIC MESSAGE CENTER NIGHT-TIME BRIGHTNESS RECOMMENDATIONS

This summary has been developed with an understanding that EMCs that are unreasonably bright are not effective for the communities or end users. This intends to help communities and stakeholders develop brightness standards for on-premise EMCs. The summary comprises:

- 1) *An overview of the importance of ensuring appropriate brightness,*
- 2) *Technology utilized to ensure appropriate brightness, and*
- 3) *Recommended brightness standards*

1. Overview of the importance of ensuring appropriate night-time brightness.

EMCs that are too bright at night can be offensive and ineffective. There are significant advantages to ensuring than an electronic display is not overly bright. These advantages include:

- » Conservation of energy
- » Increased life expectancy of the electronic display components
- » Building goodwill with the community
- » Ensuring the legibility of the display

It is in the best interest of all stakeholders to ensure that EMCs are sufficiently bright to ensure clear legibility, while at the same time avoiding a display that is overly bright.

2. Technology utilized to ensure appropriate brightness.

Most EMCs are designed to produce sufficient brightness to ensure clear legibility during daylight hours. However, daytime brightness settings are usually inappropriate for night-time viewing. The following general methods are used to dim an EMC for appropriate night-time viewing:

1. **Manual Dimming.** Using this method, the sign operator dims the display in response to changing ambient light conditions.
2. **Scheduled Dimming.** Sunset-sunrise tables allow an EMC to be programmed to dim at the same time that the sun sets and rises. This method is generally acceptable, but is more effective when used as a backup to automatic dimming controls capability, such as photocell technology.
3. **Photocell Technology.** An EMC that utilizes photocell technology can automatically dim as light conditions change. A photocell sensor alerts the display to adjust brightness according to ambient light conditions.

3. Recommended night-time brightness standards.

Dr. Lewin recommended the development of brightness criteria based on the Illuminating Engineering Society's (IES) well-established standards pertaining to light trespass, IES Publication TM-11-00. The theory of light trespass is based on the concept of determining the amount of light that can spill over (or "trespass") into an adjacent area without being offensive.

In order to simplify Dr. Lewin's recommendations, and to take a more reasonable approach to ensure that EMCs are sufficiently visible but not overly bright, **it is recommended that EMCs not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.**

Email signhelp@signs.org to receive Dr. Lewin's original research.



...it is recommended that EMCs not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.

RECOMMENDED LEGISLATIVE LANGUAGE



Electronic Message Center (EMC) Criteria: The night-time illumination of an EMC shall conform with the criteria set forth in this section.

A. EMC Illumination Measurement Criteria: The illuminance of an EMC shall be measured with an illuminance meter set to measure footcandles accurate to at least two decimals. Illuminance shall be measured with the EMC off, and again with the EMC displaying a white image for a full color-capable EMC, or a solid message for a single-color EMC. All measurements shall be taken as close as practical to a perpendicular plane of the sign at the distance determined by the total square footage of the EMC as set forth in the accompanying Sign Area of a Sign versus Measurement Distance table.

B. EMC Illumination Limits: The difference between the off and solid-message measurements using the EMC Measurement Criteria shall not exceed 0.3 footcandles at night.

C. Dimming Capabilities: All permitted EMCs shall be equipped with a sensor or other device that automatically determines the ambient illumination and programmed to automatically dim according to ambient light conditions, or that can be adjusted to comply with the 0.3 footcandle measurements.

D. Definition of EMC: A sign that utilizes computer-generated messages or some other electronic means of changing copy. These signs include displays using incandescent lamps, LEDs, LCDs or a flipper matrix.



SIGN AREA VERSUS MEASUREMENT DISTANCE

AREA OF SIGN sq. ft.	MEASUREMENT (ft.)
10	32
15	39
20	45
25	50
30	55
35	59
40	63
45	67
50	71
55	74
60	77
65	81
70	84
75	87
80	89
85	92
90	95
95	97
100	100
110	105
120	110
130	114
140	118
150	122
160	126
170	130
180	134
190	138
200	141
220	148
240	155
260	161
280	167
300	173

* For signs with an area in square feet other than those specifically listed in the table (i.e., 12 sq ft, 400 sq ft, etc), the measurement distance may be calculated with the following formula: Measurement Distance = $\sqrt{\text{Area of Sign Sq. Ft.} \times 100}$

HOW TO MEASURE THE NIGHT-TIME BRIGHTNESS OF AN EMC WITH OPERATIONAL CONTROL

(Note: This method can be completed by one individual, but requires operational control to shutoff the EMC)

STEP 1

OBTAIN AN ILLUMINANCE METER.

Purchase or otherwise procure an illuminance meter. Most city/county traffic departments have an illuminance meter, which are also referred to as lux or footcandle meters (lux is the metric measure of illuminance; footcandles is the English measure of illuminance). The illuminance meter must have the ability to provide a reading up to two decimal places and must be set to read footcandles. It is preferred to have an illuminance meter with a screw-mount that allows the sensor to be mounted on a tripod. A tripod ensures that the highly sensitive sensor is held perfectly still; otherwise it may be difficult to obtain an accurate reading.

STEP 2

DETERMINE SQUARE FOOTAGE.

Determine the square footage of the face of the electronic message sign (EMC) by multiplying the height and width of the EMC. This information may be available in a permit application, or can be determined by physically measuring the height and width of the EMC. Do not include the sign face square footage attributable to any additional static signs associated with the EMC (if applicable).



STEP 3

DETERMINE THE MEASUREMENT DISTANCE.

Using the total square footage found in Step 2, look up the measurement distance in the table provided in the Recommended Legislative Language on page 8, to determine the distance to measure the brightness of the EMC. The distance should be measured perpendicular to the EMC sign face. The use of a measuring wheel, laser finder or a smartphone app are the most convenient ways to measure the distance.



STEP 4

PREPARE THE DISPLAY FOR TESTING.

Ensure that the EMC is programmed to alternate between a solid white (or in the case of a monochrome display – the solid color of the display) message and a blank message. The community may require that the sign owner cooperate with testing by programming the EMC for testing upon written notice.

STEP 5

USE AN ILLUMINANCE METER TO MEASURE THE BRIGHTNESS OF THE EMC.

Mount the sensor of your illuminance meter to a tripod and orient the sensor directly towards the face of the EMC at the measurement distance determined in Step 2.

Ensure that the illuminance meter is set to measure footcandles up to two decimal places. As the display alternates between a solid white message and an “off” message, note the range of values on the illuminance meter. If the difference between the readings is less than 0.3 footcandles, then the brightness of the display is in compliance. If not, the display will need to be adjusted to a lower brightness level using the manufacturer’s recommended procedures.



STEP 6

ENSURE THAT THE DISPLAY CAN ADJUST TO DIFFERENT AMBIENT CONDITIONS.

Inspect the sign to ensure that it incorporates a photocell or other technology to ensure that the display can adjust according to ambient lighting conditions.



As the display alternates between a solid white message and an “off” message, note the range of values on the illuminance meter.

If the difference between the readings is less than 0.3 footcandles, then the brightness of the display is in compliance.

HOW TO MEASURE THE NIGHT-TIME BRIGHTNESS OF AN EMC—WITHOUT CONTROL OF THE SIGN

(Note: This method requires two individuals, but does not require operational control of the EMC.)

There will be instances where the EMC illumination needs to be evaluated to ensure that it does not exceed the brightness levels established in the municipal sign ordinance. If the municipality is unable to obtain access to the sign controls or attempting to take the measurement after business hours, this method should be followed.

Unlike the six-step process described previously, this process measures the difference in brightness between the sign in operation and when the sign is completely blocked from the illuminance meter. This procedure is extremely simple and requires only an illuminance meter and a piece of painted cardboard cut to the proper size.

STEP 1

OBTAIN AN ILLUMINANCE METER.

(See previous Step 1)

STEP 2

DETERMINE SQUARE FOOTAGE.

(See previous Step 2)

STEP 3

DETERMINE THE MEASUREMENT DISTANCE.

(See previous Step 3 or use $\sqrt{(\text{Area of Sign in Sq. Ft.} \times 100)}$)

STEP 4

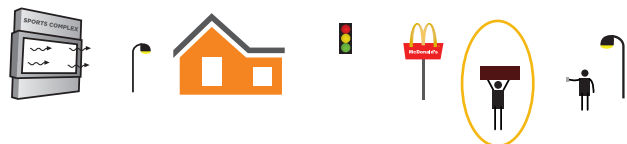
POSITION THE TESTERS.

Based on the size of the digital display, the person conducting the test should position themselves as close to directly in front of the digital display as practical, at the appropriate distance (calculated in Step 3).

A helper should position themselves about 7 ft. to 10 ft. in front of the light meter and hold up an opaque, black sheet of material that is roughly 12 in. high by 40 in. wide. (Regular cardboard painted matte black works well for this.) The sheet should be positioned so it blocks all light from the EMC, but still allows the remaining ambient light to register on the illuminance meter.

EMC Area	Measurement Distance
24 ft ²	49 ft
32 ft ²	57 ft
50 ft ²	71 ft
100 ft ²	100 ft

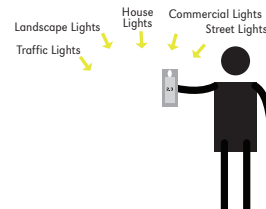
This helper should use a cardboard sheet to block the EMC light from the footcandle meter. This will establish the baseline footcandle reading.



After the cardboard block is held in place, a reading should be taken for the ambient light.

In this example, various light sources are impacting the photocell measuring 2.3 footcandles of ambient light.

This is the baseline for the measurement. Write it down.

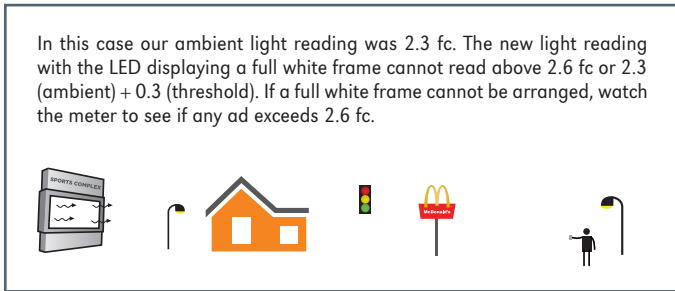


STEP 5

USE AN ILLUMINANCE METER.

The illuminance meter should be held at a height of about 5 ft. (which is approximately eye level) and aimed directly at the EMC. The illuminance meter will account for surrounding sources of light or the absence thereof.

In this case our ambient light reading was 2.3 fc. The new light reading with the LED displaying a full white frame cannot read above 2.6 fc or 2.3 (ambient) + 0.3 (threshold). If a full white frame cannot be arranged, watch the meter to see if any ad exceeds 2.6 fc.



At this point, readings should be taken from the illuminance meter to establish a baseline illumination level. (ISA recommends that the illuminance meter is capable of levels to 2 decimal places 0.00).

Once the baseline level is established, add 0.3 footcandles to the baseline level to calculate the max brightness limit. (For example: Baseline reading is 3.15 footcandles. The max brightness level is 3.45 footcandles.)

STEP 6

DETERMINE THE BRIGHTNESS LEVEL.

Remove the opaque sheet from blocking the EMC. Watch the foot-candle meter for 3 to 5 minutes to see if the max brightness level is exceeded by any of the images on the sign. If the readings do not exceed the max brightness levels, then the EMC illumination is in compliance.

If any of readings consistently exceed the max brightness level, the lighting level is not in compliance. In this scenario, the municipality will need to inform the sign owner of noncompliance and take appropriate steps to ensure that the EMC be adjusted to a lower brightness level using the manufacturer's recommended procedures.



If any of readings consistently exceed the max brightness level, the lighting level is not in compliance.



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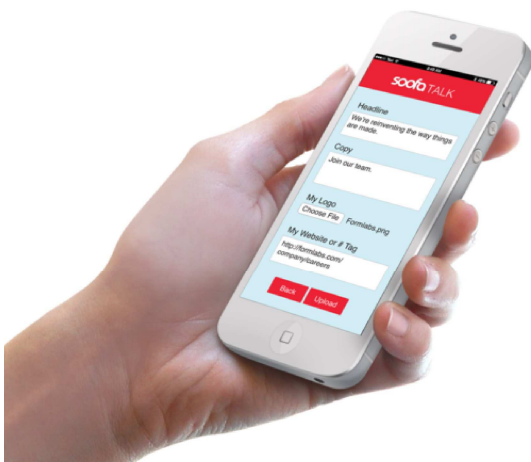
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Digital Billboard Plan Heads To Rolling Meadows Council

Posted: Wednesday, May 27, 2015 3:16 pm

Following approval by the Rolling Meadows Plan Commission to allow a new 14-ft. by 48-ft. digital billboard along Route 53 near Euclid Avenue and Rohlwing Road, in the Arlington Office Park, the matter will now go to the city council for a final vote.

The plan commission May 5 approved the request to modify city code, which currently allows billboards to be put only on the west side of Route 53.

During the plan commission meeting David Williams, president of Green Signs, presented a proposal showing how the digital sign does not glow into the neighborhood as the sign is built with hydraulic doors that reduce glare. He also said the sign will be powered by renewable energy.

"It's also very safe to operate," Williams said. "It is all done digitally, which also allows for immediate posting and we can help the city should they need to get an emergency message out right away to motorists."

Green Signs would own the sign. It would have a long-term lease agreement with Arlington Office Park also providing them with needed cash flow, Williams said.

Arlington Office Park has 103,000 square feet of office space that is only 65% occupied, Williams said. Revenue from new tenants attracted by the billboard could fund local upgrades, he added.

According to the proposal, Green Signs would pay Rolling Meadows a one-time \$50,000 permit fee for the billboard, which would sit about 1,000 feet from a residential area to the south.

The revised proposal is expected to be heard at a June Rolling Meadows City Council meeting.

Palatine rejects car wash's electric sign proposal

Daily Herald – 8/9/16

The Palatine village council rejected a plan by the Route 62 Wash and Lube at 1570 W. Algonquin Road to change their hand-operated message board to an electronic one Monday night.

The plan was opposed by many residents at the nearby Maison Du Comte gated subdivision, who said the stretch of Algonquin Road was dangerous enough with all of the car and bicycle traffic without a distracting electronic board.

"It's all about taking distractions away from drivers," Wayne Romanchuk said. "What this thing is intended to do is become a distraction, getting somebody who is driving to look at something else."

Route 62 Wash and Lube co-owner Andy Spentzos argued that the sign would not be distracting because the message on it would only change once every 15 seconds, which is what the village code requires.

In July, the village's zoning board of appeals sided with the business owners, but Monday night the village staff recommended the council reject the plan.

Ben Vyverburg, Palatine's director of planning and economic development, said the village allows electronic message boards in certain commercial areas, but not where the car wash is located.

Councilman Greg Solberg said he was not in favor of expanding the area where electric message board signs are permitted.

"The electric message board signs are frankly getting out of hand," said Solberg, who added that he has seen electric signs in Palatine where the business owner has decided to violate the village's rules. He said he has seen signs that have messages that are quickly scrolling or flashing.

The council's decision to reject the proposal was unanimous.