



AGENDA

CITY OF SEASIDE
PLANNING COMMISSION

REGULAR MEETING
COUNCIL CHAMBER
440 Harcourt Avenue
Wednesday, September 27, 2017
7:00 PM

PLEASE TURN OFF YOUR CELL PHONES UPON ENTERING THE MEETING

1. **CALL TO ORDER**

2. **ROLL CALL - ESTABLISHMENT OF QUORUM**

John Owens	Chair
Michael Lechman	Vice Chair
Keith Dodson	Commissioner
Denise Ross	Commissioner
Arlington La Mica	Commissioner
Michael Spalletta	Commissioner
Ian Oglesby	Commissioner

3. **REVIEW OF AGENDA**

If there are any items that arose after the 72-hour posting deadline, this is the point in the meeting where a vote may be taken to add the item to the agenda. (A 2/3-majority vote is required).

4. **PUBLIC COMMENT**

Members of the public wishing to address the City Council on matters within the jurisdiction of the City of Seaside, but not on this agenda, may do so during the Public Comment period for up to three minutes. Public Comments on specific agenda items are heard under that item. For the public record, please state your name.

5. **APPROVAL OF MINUTES**

A. **APPROVAL OF THE MINUTES FROM SEPTEMBER 13, 2017**

6. **BUSINESS ITEMS**

A. STUDY SESSION - BROWN ACT

PURPOSE: City staff will provide overview of the Brown Act, meeting protocol and a Commission work plan for the remainder of 2017.

RECOMMENDATION: To accept staff presentation.

B. SEASIDE MUNICIPAL CODE AMENDMENT APPLICATION NO. SMA-17-02: THE CITY OF SEASIDE, APPLICANT, IS REQUESTING THE APPROVAL OF A TEXT AMENDMENT TO CHAPTER 17.40 OF THE SEASIDE MUNICIPAL CODE THAT SETS FORTH STANDARDS FOR ELECTRONIC MESSAGE DISPLAY SIGNS RELATED TO PUBLIC OR PRIVATE MEETING FACILITIES LOCATED WITHIN RESIDENTIAL AND COMMERCIAL ZONING DISTRICTS CITYWIDE, AND ADDRESSING OTHER MATTERS PROPERLY RELATING THERETO THAT ARE IN CONFLICT WITH THE PROPOSED TEXT AMENDMENT. PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES SECTION 15061(B)(3), THE ORDINANCE IS EXEMPT FROM ENVIRONMENTAL REVIEW.

PURPOSE:

In accordance with Section 17.67.010 of the Seaside Municipal Code (SMC), the purpose of this item is for the Planning Commission to provide the City Council with a recommendation on proposed text amendments to Section 17.40 (Signs) of the SMC to allow for the installation of electronic changeable message signs at places of worship and meeting facilities in residential and commercial zones.

RECOMMENDATION:

It is recommended that the Planning Commission adopt the draft resolution provided as Attachment 1 to the staff report recommending that the City Council adopt an Ordinance for the proposed text amendment subject to the findings and evidence contained therein.

7. REPORTS FROM COMMISSIONERS

A. DISCUSSION OF NON-CONFORMING SIGN REGULATIONS

PURPOSE: City staff will review with the Commission the general requirements that pertain to non-conforming signs under section 17.04.090.

8. REPORTS FROM STAFF

9. ADJOURNMENT

Next Regularly Scheduled Meeting:
October 11, 2017
Seaside City Hall
7:00PM

The City of Seaside is committed to providing accessible facilities and accommodating people with disabilities in all of its services programs and activities. If special considerations are needed by any person to fully participate in this meeting, they are asked to contact the City Clerk at 899-6707 no fewer than two business days prior to the meeting to allow reasonable arrangements. The City Council chamber is equipped with a portable microphone and assisted listening devices are available at all meetings.

City Council Meetings that are held in the City Council Chambers are broadcast live to all Seaside residents on Comcast Channel 25 and U-verse Channel 99. Meetings are also available through live streaming at:

<http://cyp.telvue.com/player?id=T01629&video=52314&noplaylistskin=1&width=400&height=300>

Videos of past meetings are available on demand through the City's website: <http://www.ci.seaside.ca.us>

Agenda-related writings or documents provided during public meetings are available for public inspection during the meeting or from the office of the City Clerk. This agenda is posted in compliance with California Government Code Section 54954.2(a) or Section 54956.



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 6.B.

TO: Planning Commission

BY: Rick Medina, Senior Planner

DATE: September 27, 2017

SUBJECT: SEASIDE MUNICIPAL CODE AMENDMENT APPLICATION NO. SMA-17-02: THE CITY OF SEASIDE, APPLICANT, IS REQUESTING THE APPROVAL OF A TEXT AMENDMENT TO CHAPTER 17.40 OF THE SEASIDE MUNICIPAL CODE THAT SETS FORTH STANDARDS FOR ELECTRONIC MESSAGE DISPLAY SIGNS RELATED TO PUBLIC OR PRIVATE MEETING FACILITIES LOCATED WITHIN RESIDENTIAL AND COMMERCIAL ZONING DISTRICTS CITYWIDE, AND ADDRESSING OTHER MATTERS PROPERLY RELATING THERETO THAT ARE IN CONFLICT WITH THE PROPOSED TEXT AMENDMENT. PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES SECTION 15061(B)(3), THE ORDINANCE IS EXEMPT FROM ENVIRONMENTAL REVIEW.

PURPOSE

In accordance with Section 17.67.010 of the Seaside Municipal Code (SMC), the purpose of this item is for the Planning Commission to provide the City Council with a recommendation on proposed text amendments to Section 17.40 (Signs) of the SMC to allow for the installation of electronic changeable message signs at places of worship and meeting facilities in residential and commercial zones.

RECOMMENDATION

It is recommended that the Planning Commission adopt the draft resolution provided as Attachment 1 to the staff report recommending that the City Council adopt an Ordinance for the proposed text amendment subject to the findings and evidence contained therein.

BACKGROUND

The text amendments would allow, with the issuance of a Use Permit, the installation of electronic changeable message signs on the premises of places of worship and meeting facilities as either a freestanding sign or wall sign. The text amendments include performance standards

to regulate the size, location, duration of sign message being displayed, brightness, and distance of the sign board from a residential dwelling/structure.

On August 23, 2017, the Planning Commission conducted its first review of the proposed text amendment and, after receiving public input, acted to continue the item to a future meeting to receive information to address the following land use concerns/issues that were discussed/evaluated by the Commission:

1. Provide list of places of worship and meeting facilities located within the City; and
2. Identify potential locations within the City which could accommodate the placement of an electronic changeable message sign meeting the distance parameter of a sign placement maintaining a minimum distance of 50 feet from an adjoining residential use; and
3. Provide information on recommended brightness levels of LED type electronic changeable message signs; and
4. Include regulations in the Draft Ordinance to address standards for the measurement of the light source emanating from the sign and a use permit application so that adjacent property owners located within the required distance as mandated by the California Government Code for receiving a public notice for a public hearing item would be able to provide public comment on any proposed electronic changeable message sign application near their property.

The proposed text amendments have been initiated by the City of Seaside in response to discussions City staff has had with the Greater Victory Temple Church of God In Christ on the replacement of their existing manual message board with a modern electronic changeable message display. A sample of the typical manual reader message boards that are currently being used by places of worship in Seaside is provided as Attachment 2. City staff acknowledges that the use of an electronic changeable message display would enhance the overall identification and the programs/services associated with a place of worship and/or public and private meeting facility. The electronic changeable sign would also provide a visible, safe, and noticeable sign to the motoring public from surface streets.

PROJECT DESCRIPTION

The project proposes the following five amendments to the Sign Code:

1. Modification to Section 17.40.050.B that would add new text to allow the installation of electronic changeable message signs on premises of places of worship and public meeting facilities with the issuance of a Use Permit by the Planning Commission.
2. Modification to Section 17.40.060.H.3 to allow for an electronic changeable message sign to change its message display by fading or dissolving and to allow for the brightness to be adjusted via an automatic light detector/photocell, or a scheduled dimming time by which the signs light intensity will reduce when ambient light conditions darken.

3. Add new Section 17.40.060.I.6 to require a default mechanism that will cause the sign to revert immediately to a black screen if the sign malfunctions.
4. Modification to Table 3-15 (Sign Standards for Residential Zones) adding Electronic Changeable Message Display Signs for Private and Public Meeting Facilities as an allowed sign type.
5. Modification to Table 3-16 (Sign Standards for Commercial and Industrial Zones) adding Electronic Changeable Message Display Signs for Private and Public Meeting Facilities as an allowed sign type.
6. Add new Section 17.40.080.I to include development standards for Electronic, LED or Digital Signs.

The text amendments are provided as Exhibit “A” to Attachment 1. The proposed revisions are highlighted in bold and underlined.

STAFF ANALYSIS

The use of an Electronic Sign display would provide an alternative to the existing manual sign displays used by most places of worship in Seaside (See Attachment 2). The use of an electronic changeable message signs would also achieve a modern method to provide an overall project identification of church/meeting facilities programs and services and comply with energy efficient technology. Response to Planning Commission comments raised at the August 23, 2017 Planning Commission meeting are listed below:

1. Provide list of places of worship and meeting facilities located within the City.

The location of places of worship and meeting facilities has been included as Attachment 3.

2. Potential locations within the City which could accommodate the placement of an electronic changeable message sign meeting the minimum distance parameter of minimum 50 feet from an adjoining residential use.

The location of places of worship which could meet the minimum 50 distance requirement has been highlighted on Attachment 3.

3. Provide information on recommended brightness levels of LED type electronic changeable message signs.

The majority of electronic message signs are illuminated with LED's (Light Emitting Diodes). The perceived brightness of an LED sign is dependent on a variety of factors. Ambient light conditions play the largest role in affecting the brightness of the display.

An LED sign communicates its messages by emitting light. It therefore must not be too dim, since it couldn't be distinguished during sunlight; nor should it be too bright, as the image will

be distorted and difficult to read. The electronic sign must adjust its brightness over the course of the day. Today's electronic signs can dim from 100% during a bright sunny day, to around 4% during the darkest night. That means the sign is only 4% as bright at night as during the daytime. During the course of the day, the LED sign boards are equipped that will automatically dim the sign board to ambient light levels to further maintain appropriate brightness levels throughout the day.

4. Regulations to Control Sign Board Brightness.

It is recommended, based on industry research, that electronic sign boards in an urban environment should be limited to 0.3 foot-candles above ambient light levels. The 0.3 foot-candle limit is supported by research, which found that an eye luminance limit of 0.3 foot-candles in areas of low ambient electric light is a level that is unlikely to be objectionable to most persons. This information complies with the recommended brightness levels for On-Premises Electronic Message Signs, which is a compilation summary prepared for evaluating brightness for electronic message signs. This report has been included as Attachment 4.

FISCAL IMPACT

ATTACHMENTS

- 1.
 1. Attachment 1 - Draft Resolution
 2. Attachment 1- Exhibit A
 3. Attachment 2 - Seaside Sample Reader Board Signs
 4. Attachment 3 - Location of Places of Worship and Meeting Facilities
 5. Attachment 4 - Electronic Message Display Recommended Brightness Study
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RESOLUTION 17-XX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SEASIDE, STATE OF CALIFORNIA, RECOMMENDING THAT THE CITY COUNCIL ADOPT AN ORDINANCE FOR PROPOSED TEXT AMENDMENTS TO CHAPTER 17.40 OF THE SEASIDE MUNICIPAL CODE (SMC).

WHEREAS, the City of Seaside has prepared an Initial Study for the proposed text amendments to the Seaside Municipal Code pursuant to the requirements of the California Environmental Quality Act Section 21000 et seq. and State CEQA Guidelines Section 15070 through 15075. The Initial Study is provided as Exhibit “B”. Pursuant to the requirements of the California Environmental Quality Act Section 21000 et seq. and State CEQA Guidelines, it has been determined that the proposed project would not have an environmental effect and the text amendments are covered by the general rule exemption (CEQA Guidelines 15061 (b)(3) that CEQA applies only to projects that have the potential for causing a significant effect on the environment; and

WHEREAS, it is the responsibility of the Planning Commission to consider and weigh the merits of the text amendments in relation to the policies, standards and intent of the Seaside General Plan and Seaside Municipal Code and provide a recommendation to the City Council on the proposed text amendments; and

WHEREAS, the Seaside Planning Commission considered oral comments and written information concerning the proposed text amendments at a duly noticed public hearing held on September 14, 2016 and September 28, 2016, and made a recommendation to the City Council to adopt the proposed text amendments; and

WHEREAS, the proposed amendment is exempt from the California Environmental Quality Act, Section 15061(b)(3),.

NOW, THEREFORE, BE IT RESOLVED, the Planning Commission hereby finds and determines:

1. The proposed text amendments to Section 17.40 of the SMC is consistent with the goals and policies of all elements of the General Plan; and
2. The proposed amendments would not be detrimental to the public interest, health, safety, convenience, or welfare of the City; and
3. The proposed amendments are internally consistent with other applicable provisions of the Seaside Municipal Code.

NOW, THEREFORE, BE IT FURTHER RESOLVED, that the Planning Commission recommends to the City Council approval of the proposed text amendments to Section 17.40 of the SMC as shown on Exhibit A.

PASSED AND ADOPTED at the regular meeting of the Planning Commission of the City of Seaside, State of California, on the 27th day of September, 2017, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

John Owens, Chairperson

ATTEST:

Planning Commission Secretary

* New text shown in **Bold and Underlined**

1. 17.40.050 Prohibited Signs
 - B. Animated signs, including electronic message display signs, and variable intensity, blinking or flashing signs, or signs that emit a varying intensity of light or color, except time and temperature displays (which are not considered signs) **and for electronic message display signs for places of worship and public and private meeting facilities;**
2. 17.40.060.H.3: Sign illumination shall not blink, flash, flutter, or change light brightness, color, or intensity, **except for electronic message display signs per 17.40.80.I Electronic Changeable Message Display Signs.**
3. **17.40.060.I.6 All electronic message display signs shall contain a default mechanism that will cause the sign to revert immediately to a black screen if the sign malfunctions.**
4. 17.40.070 Zoning District Sign Standards

TABLE 3-15 - SIGN STANDARDS FOR RESIDENTIAL ZONES

Allowed Sign Types	Maximum Sign Height	Maximum Number of Signs Allowed per Parcel	Maximum Sign Area Allowed per Parcel
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Single-Family Residential Use

No signs allowed

Multi-Family Residential Use (apartments, condominiums, or residential subdivisions of greater than 5 lots)

Wall or freestanding	Wall signs: below edge of roof Freestanding: 6 ft	1 of either allowed sign type	24 sf
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Nonresidential Use

Wall or freestanding	Wall signs: below edge of roof no higher than 12 feet above grade	1 of either allowed sign type	32 sf
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Allowed Sign Types	Maximum Sign Height	Maximum Number of Signs Allowed per Parcel	Maximum Sign Area Allowed per Parcel
	Freestanding: 6 ft (See Figure 3-17 for sign height measurement)		
<u>Electronic Message Display Signs for Private and Public Meeting Facility</u>	<u>Up to 8 feet permitted; minor use permit for signs up to 14 feet</u>	<u>1 per parcel [may be double-sided with a maximum cabinet depth of 24-inches]</u>	<u>40 sf per side with a maximum digital screen area of 24 square feet (Maximum of two sides)</u>

TABLE 3-16 - SIGN STANDARDS FOR COMMERCIAL AND INDUSTRIAL ZONES

Allowed Sign Types	Maximum Sign Height	Maximum Number of Signs Allowed per Parcel	Maximum Sign Area Allowed per Parcel
Awning (17.40.080.B)	Below roof ⁽¹⁾ ; at least 8 ft above walking surface	Single tenant site or structure: 3 of any combination of allowed sign types per primary structure frontage. 1 of any allowed sign type on a secondary frontage. Site or structure with 2 or more tenants: The number, and type of all signs shall within a multi-tenant commercial building shall be determined in accordance with a Master Sign Program.	Maximum sign area per parcel. The total sign area on a parcel shall comply with the following requirements. 1 sf for each linear foot of primary building frontage not to exceed 100 sf. 0.5 additional sf for each linear foot of secondary building frontage not to exceed 50 sf. - Each site is allowed a total sign area of at least 25 sf regardless of frontage length. Site with 2 or more tenants: Allowed an additional freestanding identification sign of 0.25 sf for each linear foot of total primary structure frontage, up to a maximum of 100 sf.
Freestanding/Pole Sign (17.40.080.C)	14 ft		
Marquee, Projecting, Wall (17.40.080.E, 17.40.080.G)	Below roof ⁽¹⁾ , a marquee or projecting sign shall be at least 8 ft above walking surface		
Suspended	Below eave/		

Allowed Sign Types	Maximum Sign Height	Maximum Number of Signs Allowed per Parcel	Maximum Sign Area Allowed per Parcel
(17.40.080.E)	canopy; at least 8 ft above a walking surface		
Temporary/ Portable	See Sections 17.40.080.A and 17.40.080.F		

<u>Electronic Message Display Signs.</u>	<u>Up to 8 feet permitted; minor use permit for signs up to 14 feet</u>	<u>1 per parcel [may be double-sided with a maximum cabinet depth of 24-inches]</u>	<u>40 sf per side with a maximum screen area of digital display at 24 square feet (Maximum of two sides)</u>
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5. 17.40.080 Standards for Specific Sign Types

I. Electronic Message Display Signs. The following standards apply to electronic message display signs where allowed by Section 17.40.070 (Zoning District Sign Standards) (see Tables 3-15 and 3-16):

1. Location.

a. Signs shall be located on a either an arterial roadway or collector street in a manner that the zoning administrator determines will not adversely interfere with the visibility or functioning of traffic signals or traffic signage, taking into consideration physical elements of the sign and surrounding area, such as information analyzing physical obstruction issues, line of sight issues, brightness issues and visual obstruction or impairment issues. No electronic changeable message sign shall be permitted on a local street

b. Signs must be 50 feet or more from the nearest residence on the same street as the sign.

2. Sign Area Measurement. The area of an Electronic Message Display sign does not count toward area limits for other signs in 17.40.070.

3. Animation. Animated messages shall be limited to fading and dissolving, with no other effect to give the appearance of movement.

4. Audio. No sign shall include any audio message.

5. Duration. Signs messages shall have a minimum hold time of 30 seconds.

6. Timing. The sign will not illuminate from the message display area between 9:00 PM and 6:00 AM.

7. Illumination. Electronic changeable message signs may be illuminated with continuous internal LED lighting. No sign shall be illuminated so that the primary source of the light is visible beyond the property line or in any way will cause excessive glare or brightness in excess of 0.3 foot candles. The zoning administrator reserves the right to require and/or complete a post-installation inspection of the sign illumination. If, as a result of this inspection, it is determined that the illumination is so bright as to adversely impact adjacent properties and uses, the zoning administrator may require shielding or a reduction and/or adjustment in the intensity of the sign illumination, so that it is in keeping with the general level of illumination of the surrounding properties. Such intensity restriction may vary by time of day and ambient light conditions. Illuminated signs located adjacent to any residential area shall be shielded to direct light downward and away from adjacent properties such that there is no spillover light and shall be controlled by a rheostat or functional equivalent to avoid excessive glare to residential properties.

8. Light detector. No permit for such sign shall be issued unless the sign is installed with an automatic, or a scheduled dimming time by which the signs light intensity will reduce when ambient light conditions darken. Such dimming feature shall reduce the light intensity from the sign from dusk to dawn to a level that does not impair the visibility on any adjacent roadway, or be directed onto a residential property.

Sample of existing Reader Board Signs



8' x 4' Reader Board Sign for Greater Victory Temple Church of God in Christ
1620 Broadway Avenue



8'x4' Reader Board Sign for the Seventh Day Adventist Church
1600 Broadway Avenue

Sample of existing Reader Board Signs



6'x4 Reader Board Sign for Lighthouse Baptist Church
1030



8'x4' Reader Board Sign for Friendship Baptist Church
1440 Broadway Avenue

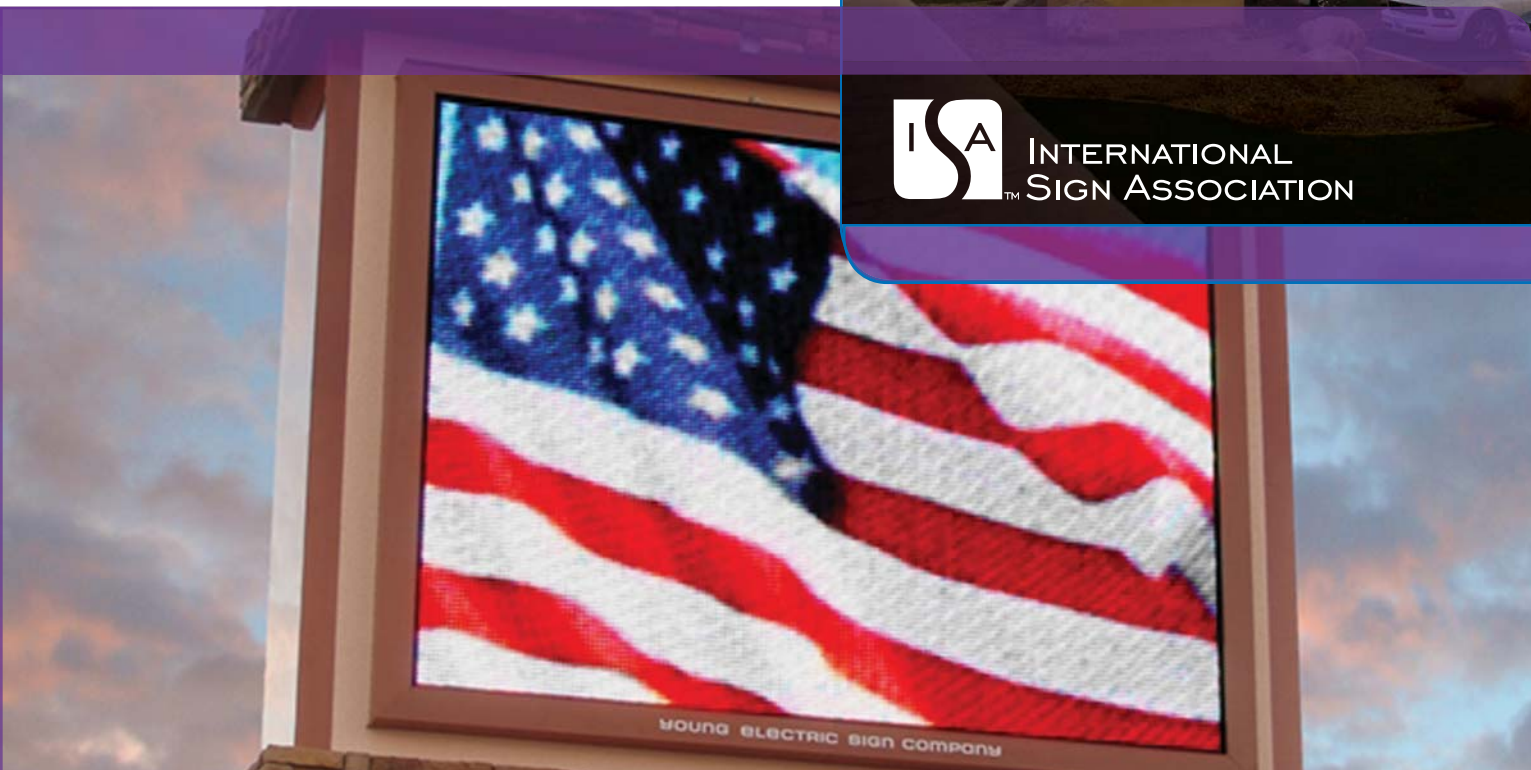
ELECTRONIC MESSAGE SIGNS	
Name	Address
Churches in the City of Seaside	
Bethel Missionary Baptist Church	390 Elm Ave.
Children of God Christian Center	1340 Hilby
Christian Memorial Church of God in Christ	515 Sonoma Ave.
Christian Memorial Community Tabernacle	2699 Colonel Durham St.
Emmanuel Church-God in Christ	1450 Sonoma Ave.
Faith Lutheran Church	1460 Hilby
Friendship Baptist Church	1440 Broadway Ave.
Ft Ord Chapel	4280 General Jim Moore Blvd
Grace Christian Chapel of Seaside	1399 Waring St.
Greater Faith Missionary Baptist Church	1600 Broadway Ave.
Greater Victory Temple Church	1620 Broadway Ave.
Hays CME Church	625 Elm Ave.
Hilltop Marina United Methodist Church	1120 Kimball
Hilltop United Methodist Church	1340 Hilby
Islamic Society of Monterey County	405 Elm Ave.
Lighthouse Baptist	1030 Hilby
Monterey Baptists Church	601 Sonoma
Monterey Bay Christian Center	1184 Hilby
Monterey Tongan Assembly of God Church	Broadway Ave.
New Hope Baptist Church	1304 Sonoma Ave.
New Testament Christian Church	Luxton St. (?)
Ocean View Baptist Church	1200 Amador Ave.
Pentecostal Outreach Center	La Salle Ave.
Seaside Assembly of God Church	1160 Hilby
Seaside Church of Christ	1310 Broadway Ave.
Seaside Community Church	1395 La Salle Ave.
Seaside First Baptist Church	1949 Waring St.
Seventh Day Adventist Church	1600 Broadway Ave.
St Francis Xavier Church	1475 La Salle Ave
St Matthias Episcopal Church	1098 Noche Buena St
St Seraphims Russian Orthodox	1160 CA-218
The Church of Jesus Christ Latter-day Saints	1024 Noche Buena St
Lighthouse Full Gospel Church	1153 Hamilton
Meeting Facilities	
American Legion (Post 591)	1000 Playa Ave.
General Stillwell Community Center	4260 Gigling Rd.
Oldemeyer Center	986 Hilby Ave.
Ord Military Community Rec Center	129-4235 Gigling Rd.
Veterans of Foreign Wars	1996 Freemont Blvd.
Meadowbrook Swim and Tennis Club	1533 Kimball Ave.

*highlighted locations do not meet the 50ft minimum distance requirement

Recommended
Brightness Levels
for On-Premise
Electronic
Message Centers
(EMC's)



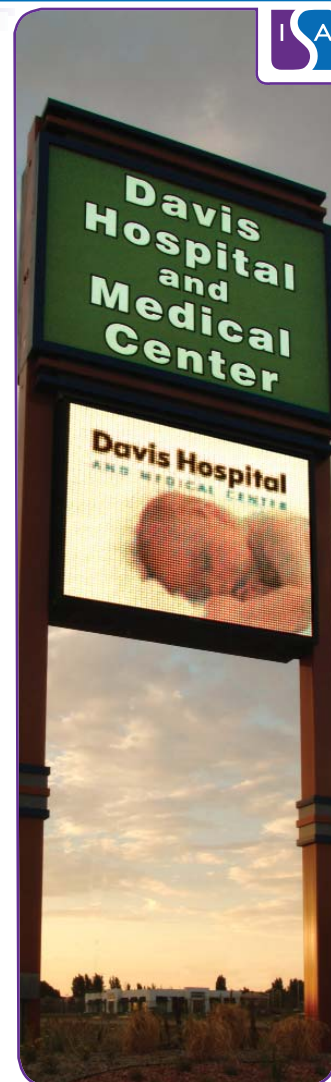
INTERNATIONAL
SIGN ASSOCIATION



A COMPILATION SUMMARY WITH EXTRACTS FROM INDUSTRY REPORTS • DECEMBER 2010

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Introduction



Electronic Message Centers (EMC's)



One of the more interesting types of signage that is becoming increasingly popular is on-premise **electronic message centers**, or EMCs. 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 where the sign is located. Rather, EMCs are digital signs that are located *on the premises* of the business, and that advertise goods and services that are provided at the location.



Digital billboard/off-premise sign advertising an automobile business away from where the sign is located



Electronic Message Center (EMC)/on-premise sign advertising an automobile business that is located at the place of business

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. For the purposes of this publication, *we are focusing solely and exclusively on EMCs.*

EMCs that are too bright can be offensive and ineffective. EMC brightness is an issue where sign users, the sign industry, and the planning community 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.

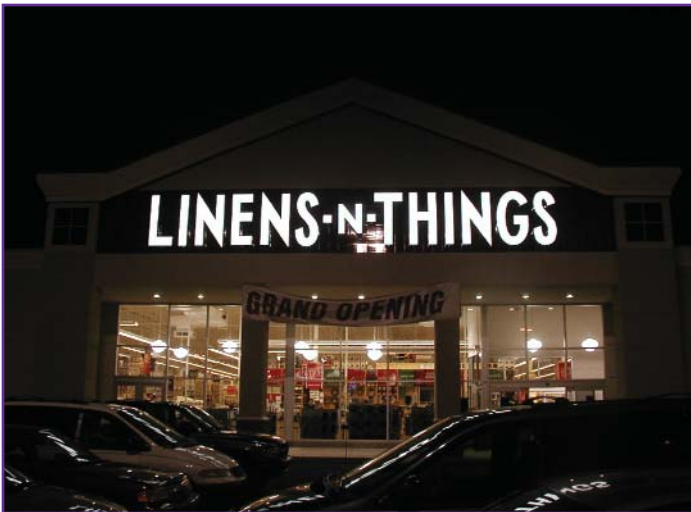


That's why many sign companies recommend to their customers that in order for these signs to be most effective, their brightness be set at such a level to be visible, readable and conspicuous.

In 2008, the International Sign Association (ISA) retained Dr. Ian Lewin of Lighting Sciences to help the industry develop scientifically-researched, understandable recommendations for EMC brightness. Dr. Lewin is a past chair of the Illuminating Engineering Society of North America (IES), and is greatly respected within the lighting field. His work for ISA was conducted with the input of experts within the sign industry. Dr. Lewin's full report can be found at www.signs.org.

As a result of this research, the recommended brightness level for on premise EMCs is 0.3 foot candles above ambient light conditions when measured at an appropriate distance. This is a lighting level that works in theory and in practice.

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. EMC's use a different lighting technology than most of these types of signs, and as such the scientific approach differs.



You can rest assured that the information contained in this publication is relevant, appropriate and workable for determining EMC brightness levels.

We have provided six short steps to help guide the process and recommended statutory language. If you need further assistance, feel free to contact ISA at (703) 836-4012 to answer any of your EMC brightness questions.

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.

Executive Summary

ISA Electronic Message Display Brightness Recommendations



This summary has been developed to assist stakeholders concerned with development of brightness standards for large-format, electronic displays used for on-premise sign applications. This summary comprises:

- 1) *an overview of the importance of ensuring appropriate brightness,*
- 2) *technology utilized to ensure appropriate brightness,*
- 3) *recommended brightness standards, and*
- 4) *brightness measurement methodology.*

1. Overview of the importance of ensuring appropriate brightness.

Electronic displays that are too bright can be offensive and ineffective. There are significant advantages to ensuring that 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 electronic displays 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 electronic displays are designed to produce sufficient brightness to ensure clear legibility during daylight hours. However, daytime brightness settings are usually inappropriate for nighttime viewing. The following general methods are used to dim an electronic display for appropriate nighttime 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 electronic display 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 electronic display 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.

Most electronic displays are designed to produce sufficient brightness to ensure clear legibility during daylight hours. However, daytime brightness settings are usually inappropriate for nighttime viewing.



3. Recommended brightness standards.

ISA commissioned Dr. Ian Lewin of Lighting Sciences, Inc. to develop brightness criteria for on-premise electronic displays. Dr. Lewin is a leading lighting expert with over thirty years experience in the lighting industry.

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.

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 EMC's are sufficiently visible but not overly bright, it is recommended that EMC's not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.

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



4. Brightness measurement methodology.

There are two generally accepted measures of brightness in the sign industry; illuminance and luminance. Illuminance, the preferred method, is a measure of the amount of light intercepting an object at a given distance from a light source and is measured in footcandles or its metric equivalent, lux. Illuminance can be measured with a footcandle meter (also know as a luxmeter), which are relatively inexpensive (\$100-1000) and commonly available. The footcandle meter should be accurate to two decimal points for accurate measurements. The second method, luminance, is an absolute measure of the amount of brightness that is being emitted from a light source and is usually measured in candelas per square meter, also known as "nits." Luminance can be measured by use of a "nit gun", which are expensive (~\$3,000) and difficult to procure. The preferred method of measurement is illuminance using a footcandle meter because a measure of luminance fails to account for ambient light conditions.



Recommended Legislative Language



“

1. **Electronic Message Center (EMC) Criteria:** The 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 perpendicular to the face of the EMC at the distance determined by the total square footage of the EMC as set forth in the accompanying Sign Area 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.
 - 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 Distance (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 = $\sqrt{\text{Area of Sign Sq. Ft.} \times 100}$*

Six STEPS: EMC Brightness Levels

How to Measure the Brightness of an Electronic Message Center (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.

If you do not have an illuminance meter, the Konica Minolta T-10 is a high quality illuminance meter that works well. However, other less expensive illuminance meters may also provide adequate results. The International Sign Association has no affiliation with Konica Minolta.

STEP 2

DETERMINE SQUARE FOOTAGE.

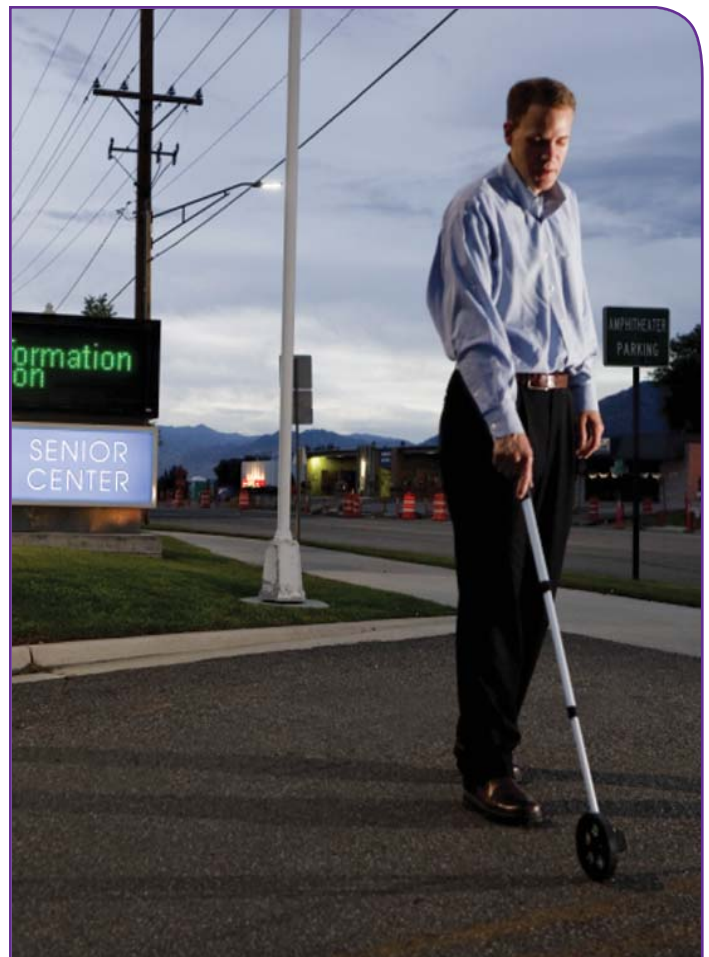
Determine the square footage of the face of the electronic message sign (EMC) by multiplying the height and width of the EMC. This information may be available in a permit application, or can be determined by physically measuring the height and width of the EMC. Do not include the sign face square footage 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 6, 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 is the most convenient way to measure the distance.



How to Measure the Brightness of an Electronic Message Center

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. You may wish to have a requirement that the sign owner cooperate with testing by programming the EMC for testing upon written notice.

STEP 5

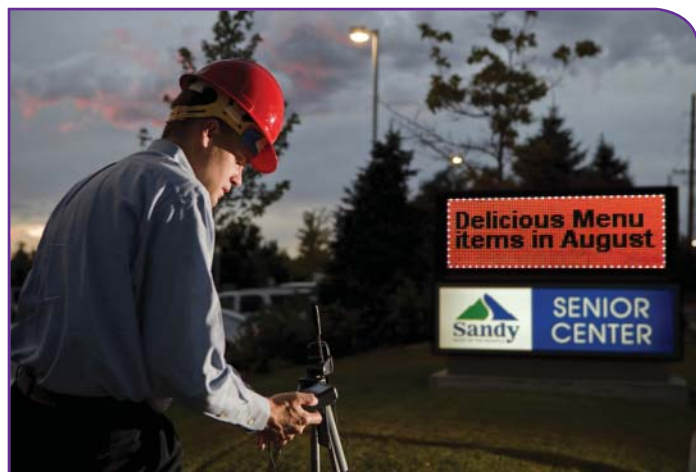
USE AN ILLUMINANCE METER TO MEASURE THE BRIGHTNESS OF THE EMC.

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.



STEP 5 [CONTINUED]

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.



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RECOMMENDED BRIGHTNESS LEVELS FOR ON-PREMISE ELECTRONIC MESSAGE CENTERS