

BOA-23336

20-12 11

4.1

BOARD OF ADJUSTMENT CASE REPORT

STR: 137
CZM: 21
CD: 1

Case Number: **BOA-23336**

HEARING DATE: 05/10/2022 1:00 PM

APPLICANT: Ryan Neurohr ,Image Builders

ACTION REQUESTED: Special Exception to permit a Dynamic Display sign in the AG zoned lot containing a School Use (Sec. 60.050-B.2.c) Special Exception to permit a dynamic display sign within 200-feet of Residentially Zoned Lots (Sec. 60.100-F)

LOCATION: 5402 N MARTIN LUTHER KING JR BV E

ZONED: AG

PRESENT USE: School

TRACT SIZE: 1316558.48 SQ FT

LEGAL DESCRIPTION: BEG NEC NE TH W750 S1733 E750 N1733 TO POB SEC 11 20 12,

RELEVANT PREVIOUS ACTIONS: None.

RELATIONSHIP TO THE COMPREHENSIVE PLAN: The Tulsa Comprehensive Plan identifies the subject property as part of an "Existign Neighborhood" and an "Area of Growth".

An **Existing Neighborhood** is intended to preserve and enhance Tulsa's existing single-family neighborhoods. Development activities in these areas should be limited to the rehabilitation, improvement or replacement of existing homes, and small-scale infill projects, as permitted through clear and objective setback, height, and other development standards of the zoning code.

The purpose of **Areas of Growth** is to direct the allocation of resources and channel growth to where it will be beneficial and can best improve access to jobs, housing, and services with fewer and shorter auto trips. Areas of Growth are parts of the city where general agreement exists that development or redevelopment is beneficial. As steps are taken to plan for, and, in some cases, develop or redevelop these areas, ensuring that existing residents will not be displaced is a high priority. A major goal is to increase economic activity in the area to benefit existing residents and businesses, and where necessary, provide the stimulus to redevelop.

ANALYSIS OF SURROUNDING AREA: The subject tract is located at the SE/c of W. 56th St. N. and M.L.K. Blvd.

STAFF COMMENTS: The applicant is requesting a Special Exception to permit a Dynamic Display sign in an Residential District containing a School Use (Sec. 60.050-B.2.c) Special Exception to permit a dynamic display sign within 200-feet of Residentially Zoned Lots (Sec. 60.100-F).

Included in your packet are the standards for Sec. 60.050 and 61.100 for Dynamic Display signs in a Residential District and the general Regulations for Dynamic Display Signs.

SAMPLE MOTION:

Move to _____ (approve/deny) a **Special Exception** to permit a Dynamic Display sign in an Residential District containing a School Use (Sec. 60.050-B.2.c) **Special Exception** to permit a dynamic display sign within 200-feet of Residentially Zoned Lots (Sec. 60.100-F)

- Per the Conceptual Plan(s) shown on page(s) _____ of the agenda packet.
- Subject to the following conditions (including time limitation, if any):

_____.

The Board finds that the requested Special Exception will be in harmony with the spirit and intent of the Code and will not be injurious to the neighborhood or otherwise detrimental to the public welfare.

60.040-D Dynamic Displays

Unless otherwise expressly stated, all signs that include a dynamic display are subject to the supplemental regulations of [Section 60.100](#).

60.040-E Off-Premise Business Signs

Off-premise business signs may be approved for multi-tenant developments only when such developments are included in a mandatory development plan (See [Section 70.040](#)). The authority to approve off-premise business signs is intended to be used only when the location of the identified business or activity precludes placement of a sign that is visible to motorists and pedestrians along the highest (traffic) volume street that provides access to the subject development and when the result of the approval will be in keeping with the stated purposes of this chapter ([§60.010-A](#)). The intent of this off-premise business sign authorization is to provide flexibility in overcoming the locational and visibility challenges of lots within a mandatory development plan area, not to allow an overall increase in the amount of signage allowed or encourage a proliferation of signs within the area covered by the mandatory development plan. Any waiver, modification, or variance to the regulations of [Section 60.040-E](#) is considered a use variance and is thereby prohibited in accordance with [§70.130-B1](#).

60.040-F Illumination

Except for authorized dynamic displays, the illumination on the face of any sign where illumination is permitted must be by constant light and may not exceed 70 foot candles measured at a distance of 2 feet from the face of the sign.

Section 60.050 Signs in R, AG, and AG-R Zoning Districts

60.050-A Applicability

The regulations of this section apply to signs in R, AG, and AG-R districts. See also the general regulations of [Section 60.040](#).

60.050-B Signs Allowed

The following signs are allowed in R, AG, and AG-R districts in addition to any signs allowed pursuant to [Section 60.030](#). On-premise roof signs, on-premise projecting signs and all off-premise outdoor advertising signs are prohibited in R, AG, and AG-R districts.

1. Apartment/Condo Buildings and Neighborhood and Subdivision Identification Signs

- a. Lots occupied by one or more apartment/condo buildings are allowed a maximum of one freestanding sign per street frontage and a maximum of one wall sign per building wall. Wall signs may not exceed 32 square feet in area.
- b. Residential neighborhoods and residential subdivisions, including manufactured housing parks, are allowed a single freestanding sign at each street entrance to the neighborhood or subdivision.
- c. The freestanding signs allowed by this section may not exceed 32 square feet in area or 0.20 square feet of sign area per linear foot of street frontage, whichever is greater, but in no case may the sign exceed 150 square feet in area. The maximum sign area calculation must be based on

the street frontage to which the sign is oriented. Maximum height may not exceed 20 feet.

2. Nonresidential Uses

The following regulations apply to all principal nonresidential uses in R, AG, and AG-R districts.

a. Wall Signs

Nonresidential uses in R, AG, and AG-R districts are allowed a maximum of one wall sign per public building entrance. No individual wall sign may exceed 32 square feet in area. In buildings with multiple public building entrances, the sign area of all wall signs may not exceed 32 square feet in the aggregate.

b. Freestanding Signs

Nonresidential uses in R, AG, and AG-R districts are allowed a maximum of one freestanding sign per street frontage. Allowed freestanding signs are subject to a maximum height limit of 20 feet and may not exceed 32 square feet in area or 0.20 square feet of sign area per linear foot of street frontage, whichever is greater, but in no case may the sign exceed 150 square feet in area. The maximum sign area calculation must be based on the street frontage to which the sign is oriented.

c. Dynamic Displays

Dynamic displays are prohibited in R, AG, and AG-R districts except that on a lot occupied by an allowed public, civic or institutional use, the board of adjustment is authorized to approve a special exception for the allowed wall sign or the allowed freestanding sign to include a dynamic display.

- (1) The allowed dynamic display component may not exceed 32 square feet in area, and no more than one (wall or freestanding) dynamic display is allowed per street frontage.
- (2) The sign area allowed for a dynamic display is not in addition to the maximum sign area allowed for a wall or freestanding sign, but rather is counted as part of the maximum area of a wall or freestanding sign.
- (3) Dynamic displays in R, AG, and AG-R districts may operate only between the hours of 7:00 a.m. and 9:00 p.m. unless otherwise expressly approved through the special exception process.
- (4) Dynamic displays are subject to the dynamic display regulations of [Section 60.100](#).

Section 60.060 Signs in Office Zoning Districts

60.060-A Applicability

The regulations of this section apply to signs in all office zoning districts. See also the general regulations of [Section 60.040](#).

- a. Off-premise outdoor advertising signs;
- b. Dynamic displays;
- c. Inflatable signs; and
- d. Roof signs.

60.090-E MPD District

Except as otherwise expressly allowed as part of an approved MPD development plan:

1. Residential development areas are subject to the sign regulations that apply to R districts; and
2. Nonresidential development areas are subject to the sign regulations that apply to CS districts.

Section 60.100 Dynamic Displays

The supplemental regulations of this section apply to all signs with dynamic displays. Except as otherwise expressly stated, these regulations apply whether incorporated into off-premise outdoor advertising signs or on-premise signs that are allowed to include a dynamic display.

- 60.100-A** The images and messages displayed on a dynamic display must have a minimum dwell time of at least 8 seconds and may not contain any movement, animation, audio, video, pyrotechnics or other special effects.
- 60.100-B** The transition or change from one message to another must occur in one second or less and involve no animation or special effects.
- 60.100-C** The images and messages displayed must be complete in and of themselves within the required dwell time.
- 60.100-D** Dynamic displays may not be located within 50 feet of the driving surface of a signalized intersection, measured horizontally in a straight line from the nearest point of the sign structure to the nearest point of the intersection.
- 60.100-E** Dynamic displays may not be located within or within 20 feet of the driving surface of a street, measured horizontally in a straight line from the nearest point of the sign structure to the nearest point of the street curb or edge of the traveled roadway marked or understood as such.
- 60.100-F** Dynamic displays may not be located within 200 feet of any of the following: (1) an R or AG-R district (other than street, highway or freeway right-of-way); (2) a residential development area. This separation distance does not apply if the dynamic display is not visible from the referenced district, area or lot, and the requirements may be modified in R, AG, and AG-R districts if approved through the special exception process. Required separation distances must be measured horizontally in a straight line from the nearest point on a sign structure to the nearest point of an R or AG-R district or residential development area boundary.
- 60.100-G** Dynamic displays must be equipped with a default mechanism that freezes the display in one position or presents a static or blank display if a malfunction occurs.

- 60.100-H** Dynamic displays must be equipped with a light detector/photocell that automatically adjusts the display's brightness according to natural ambient light conditions.
- 60.100-I** The maximum brightness level of a dynamic display may not exceed 6,500 nits (candelas per square meter) during daylight hours or 500 nits between 30 minutes after sunset and 30 minutes before sunrise, as those times are determined by the National Weather Service (Actual Time). Brightness must be measured from the brightest element of the sign's face.
- 60.100-J** Any outdoor advertising sign that includes a dynamic display that was lawfully established before January 1, 2010, must be separated by a minimum distance of 1,200 feet from any other outdoor advertising sign that includes a dynamic display. This spacing limitation does not apply between signs separated by a freeway. The 1,200-foot distance must be measured in a straight line from the center of the subject sign structures, as located on the ground.
- 60.100-K** Except as provided in [§60.100-J](#), any outdoor advertising sign that includes a dynamic display and that was approved by a permit issued on or after January 1, 2009, must be separated by a minimum distance of 1,200 feet from any other outdoor advertising sign that includes a dynamic display facing the same traveled way. The 1,200-foot distance must be measured in a straight line from the center of the subject sign structures, as located on the ground

Section 60.110 Administration

- 60.110-A** Any person proposing to erect any sign requiring a sign permit must submit a sign permit application to the development administrator. Applications for such permit must be accompanied by detailed plans, including scaled drawings of the proposed sign, a detailed site plan and other information deemed necessary by the development administrator to determine compliance with applicable regulations.
- 60.110-B** Sign permit fees must be paid prior to the issuance of a sign permit.
- 60.110-C** If the work associated with a sign permit has not been completed within 180 days of the date of the issuance of the permit, such permit will lapse and become null and void.

Section 60.120 Nonconforming Signs

See [Section 80.060](#).

Section 60.130 Rules of Measurement

60.130-A Sign Area

1. Signs Enclosed in Frames or Cabinets

The area of a sign enclosed in a frame or cabinet is determined based on the outer dimensions of the frame or cabinet surrounding the sign face (see [Figure 60-2](#)).

City of Tulsa Board of Adjustment
2 West 2nd Street, Suite 800
Tulsa, OK 74103

Thanks to Tulsa voters who approved funding for digital marquees in the 2021 bond package, Tulsa Public Schools will be submitting requests for approval for approximately 45 digital school marquees over the next year. The district is sensitive to neighborhood concerns and aware of city regulations. We intend to adhere to all elements of the Tulsa Zoning Code including those of Section 60.100 relating to dynamic displays.

Nearly all of the marquees will be replacing older, manually managed signs. Schools are truly excited about this opportunity to install dynamic digital signs for several reasons including:

Improved communication with families and neighbors:

- Messages can be easily displayed in multiple languages to match community needs
- Displays can be quickly changed to share emergency information when needed
- Sharing information about multiple and varied school activities helps spark and grow family and neighborhood interest and connections

Improved safety:

- The displays can be centrally managed via a cellular network to quickly share emergency notifications in multiple languages if needed. Messages can be controlled individually by school, by neighborhood or district wide.
- School staff will no longer need to climb on ladders in challenging weather to change out manual marquees.

Improved appearance and perception of our schools:

- New marquees will brighten and modernize the look and “curb appeal” of our schools and show the community that we are investing in our children, schools, and neighborhoods.

We know the importance of keeping families informed and we use multiple lines of communication to reach the families of our more than 33,000 students. We see the digital marquees as another valuable tool, especially for families who don't have reliable access to internet and technology. The marquee project was one of the bond items that generated the most positive response from parents and school leaders during the 2021 bond election and we look forward to meeting with members of the Board of Adjustment to discuss this work and answer any questions. We appreciate your time and consideration.

Sincerely,



Jorge Robles

Chief Finance and Information Officer

Tulsa Public Schools

DANNY WHITEMAN
SIGN PLANS EXAMINER
TEL (918)596-9664
EMAIL dwhiteman@cityoftulsa.org



DEVELOPMENT SERVICES

175 EAST 2nd STREET, SUITE 450
TULSA, OKLAHOMA 74103-3227

SIGN PLAN REVIEW

March 7, 2022

LOD Number: 1

Phone: 918-232-8024

Bonnie Moore
204 E. 5th Ave.
Owasso, OK 74055

APPLICATION NO: SIGN-111263-2022 (PLEASE REFERENCE WHEN CONTACTING OUR OFFICE)
Location: 5402 N. Martin Luther King Jr. Blvd.
Description: Freestanding sign with dynamic display

INFORMATION ABOUT SUBMITTING REVISIONS

OUR REVIEW HAS IDENTIFIED THE FOLLOWING CODE OMISSIONS OR DEFICIENCIES IN THE PROJECT APPLICATION FORMS, DRAWINGS, AND/OR SPECIFICATIONS. THE DOCUMENTS SHALL BE REVISED TO COMPLY WITH THE REFERENCED CODE SECTIONS.

REVISIONS NEED TO INCLUDE THE FOLLOWING:

1. A COPY OF THIS DEFICIENCY LETTER
2. A WRITTEN RESPONSE AS TO HOW EACH REVIEW COMMENT HAS BEEN RESOLVED
3. THE COMPLETED REVISED/ADDITIONAL PLANS FORM (SEE ATTACHED)

REVISIONS SHALL BE SUBMITTED DIRECTLY TO THE CITY OF TULSA PERMIT CENTER LOCATED AT 175 EAST 2nd STREET, SUITE 450, TULSA, OKLAHOMA 74103, PHONE (918) 596-9601. THE CITY OF TULSA WILL ASSESS A RESUBMITTAL FEE. DO NOT SUBMIT REVISIONS TO THE PLANS EXAMINERS.

SUBMITTALS FAXED / EMAILED TO PLANS EXAMINERS WILL NOT BE ACCEPTED.

IMPORTANT INFORMATION

1. SUBMIT TWO (2) SETS OF REVISED OR ADDITIONAL PLANS. REVISIONS SHALL BE IDENTIFIED WITH CLOUDS AND REVISION MARKS.
2. INFORMATION ABOUT ZONING CODE, THE INDIAN NATION COUNCIL OF GOVERNMENT (INCOG), BOARD OF ADJUSTMENT (BOA), AND THE TULSA METROPOLITAN AREA PLANNING COMMISSION (TMAPC) IS AVAILABLE ONLINE AT WWW.INCOG.ORG OR AT INCOG OFFICES AT 2 WEST 2ND STREET, 8TH FLOOR, TULSA, OK, 74103 OR TELEPHONE (918) 584-7526.
3. PRESENT THIS LETTER TO INCOG WHEN APPLYING FOR BOARD OF ADJUSTMENT OR PLANNING COMMISSION ACTION.

(Continued)

REVIEW COMMENTS

SECTIONS REFERENCED BELOW ARE FROM THE CITY OF TULSA ZONING CODE TITLE 42 AND CAN BE VIEWED AT WWW.INCOG.ORG

Application No. SIGN-111263-2022

This letter of deficiencies covers Sign Plan Review items only.

For ground, monument, pole & outdoor advertising structure sign applications only, you may receive additional letters from other disciplines such as Water/Sewer/Drainage for additional deficiencies regarding Utility Easement placement which are not addressed in this letter.

1. Section 60.050 Signs in R and AG Zoning Districts

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- (4) Dynamic displays are subject to the dynamic display regulations of Section 60.100.

Review comments: The proposed freestanding sign with a dynamic display is located in an AG zoning district and requires a special exception from the BOA prior to issuance of a sign permit.

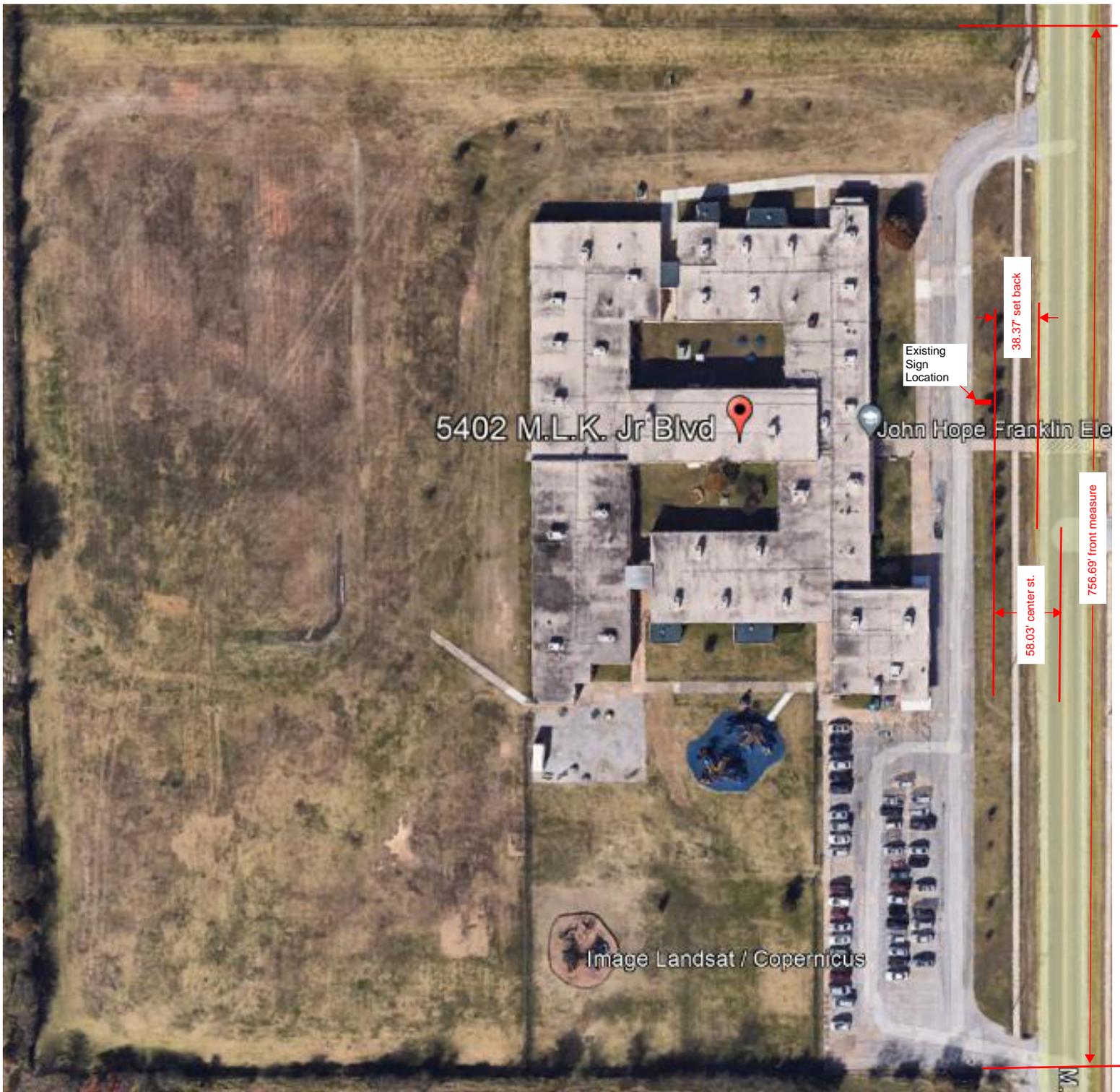
The sign review will resume once the required BOA approval paperwork is submitted.

NOTE: Please direct all questions concerning variances, special exceptions, appeals of an administrative official, Planned Unit Developments (PUD), Corridor (CO) zoned districts, zoning changes, platting, lot splits, lot combinations, alternative compliance landscape plans and all questions regarding (BOA) or (TMAPC) application forms and fees to an INCOG representative at 584-7526. It is your responsibility to send the decision of any actions by the BOA or TMAPC affecting the status of your application for a Sign Permit to our office so we may continue to process your application. INCOG does not act as your legal or responsible agent in submitting documents to the City of Tulsa on your behalf.

END – ZONING CLEARANCE AND SIGN CODE REVIEW

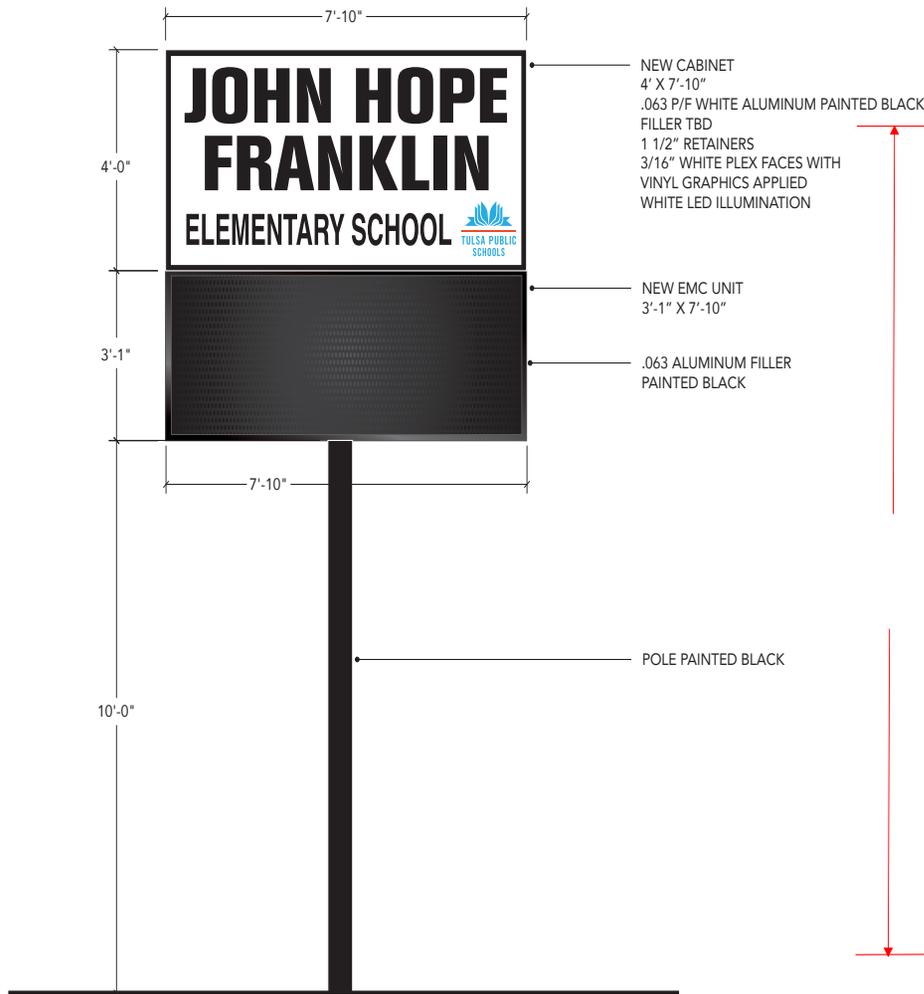
NOTE: THIS CONSTITUTES A PLAN REVIEW TO DATE IN RESPONSE TO THE SUBMITTED INFORMATION ASSOCIATED WITH THE ABOVE REFERENCED APPLICATION. ADDITIONAL ISSUES MAY DEVELOP WHEN THE REVIEW CONTINUES UPON RECEIPT OF ADDITIONAL INFORMATION REQUESTED IN THIS LETTER OR UPON ADDITIONAL SUBMITTAL FROM THE APPLICANT.

KEEP OUR OFFICE ADVISED OF ANY ACTION BY THE CITY OF TULSA BOARD OF ADJUSTMENT OR TULSA METROPOLITAN AREA PLANNING COMMISSION AFFECTING THE STATUS OF YOUR APPLICATION FOR A CITY OF TULSA SIGN PERMIT.



John Hope Franklin Elementary School
5402 N MLK Jr. Blvd
Tulsa, OK 74126

Note: Will be using existing Sign location



A | ELEVATION
SCALE: 3/8" = 1'-0"
D/F ILLUMINATED

THESE DRAWINGS ARE THE EXCLUSIVE PROPERTY OF IMAGE BUILDERS, AND ARE THE RESULT OF ORIGINAL WORK BY ITS EMPLOYEES. THEY ARE SUBMITTED FOR THE SOLE PURPOSE OF YOUR CONSIDERATION OF WHETHER TO PURCHASE THESE PLANS, OR TO PURCHASE FROM IMAGE BUILDERS, SIGNAGE MANUFACTURED IN ACCORDANCE TO THESE PLANS. DISTRIBUTION OR EXHIBITION OF THESE PLANS TO OTHERS IS EXPRESSLY FORBIDDEN. © 2019 I.B.



APPROVED AS SHOWN APPROVED AS NOTED

X
CLIENT NAME _____
DATE _____

PROJECT/CLIENT NAME:
JOHN HOPE FRANKLIN

LOCATION:
5402 N MLK JR BLVD
TULSA, OK 74126
ACCOUNT EXECUTIVE:
RYAN NEUROHR

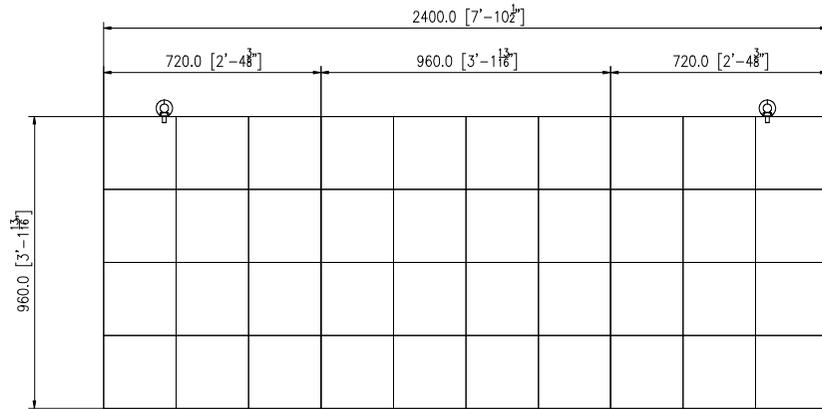
DESIGNER:
BILL SAMPLE
DATE OF ORIGINAL DWG:
FEB 10, 2022

REVISION HISTORY:

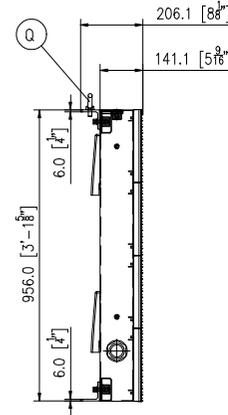
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D/F ILLUMINATED

SHEET NAME:

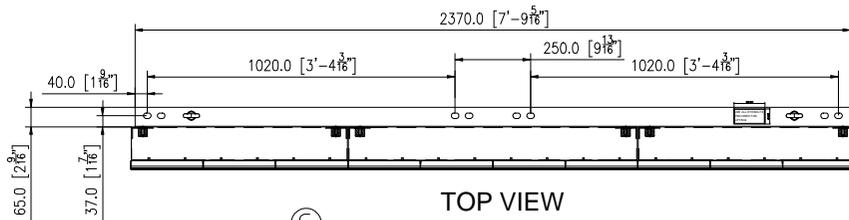
4.12 **ST-1.0**



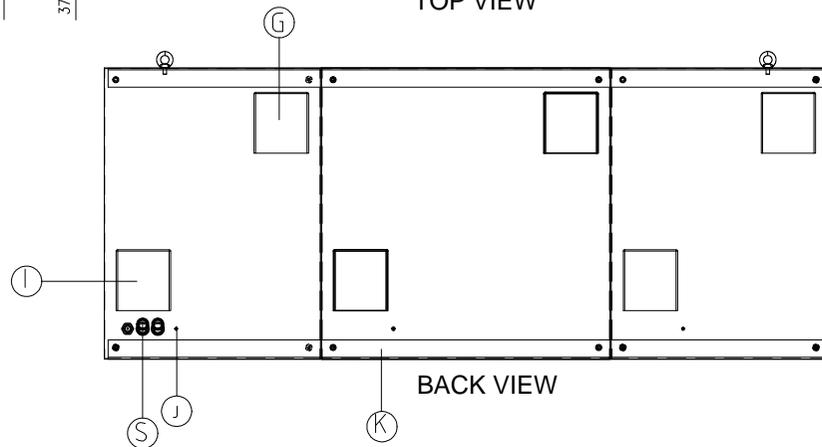
FRONT VIEW



SIDE VIEW



TOP VIEW



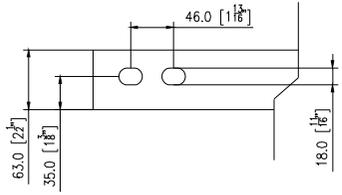
BACK VIEW

K	ANGLE IRON-SEE DETAIL K
Q	EYEBOLT-SEE DETAIL Q
S	STRAIGHT CONDUIT-SEE DETAIL S
J	GROUND LUG
I	VENTILATION INTAKE
G	VENTILATION EXHAUST

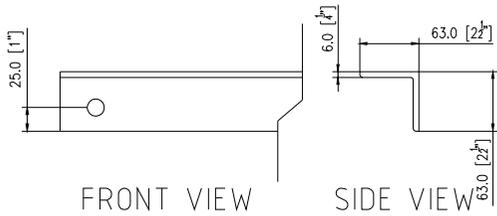
NOTES:
 MATERIAL: 5052
 FINISHING: MATT PLASTIC SPRAY, BLK
 SPECS: 60x150 1R1G1B
 PITCH: 16mm
 WEIGHT:294 lbs/FACE

Note:
 Positions and dimensions of the vents in this drawing are for reference only.
 For accurate drawing, please request production drawing from Optec.

REV.	DATE	DESCRIPTION	BY	APPR
		OPTEC DISPLAYS, INC		
		COPYRIGHT OPTEC DISPLAYS, INC .ALL RIGHTS RESERVED.UNAUTHORIZED REPRODUCTION AND DISTRIBUTION PROHIBITED		
DISPLAY MODEL				
DRAWING NUMBER		2021-000755-INF-MOD-16mm-1R1G1B-QR-60X150-DF-V2		
REFERENCE				
DESIGNED BY		SCALE/SHEET SIZE	1:1	
DRAWN BY		TOLERANCE	±1/4"	
DATE	2021/09/02	UNITS	MM (INCHS)	
PAGE		REVISION		



TOP VIEW

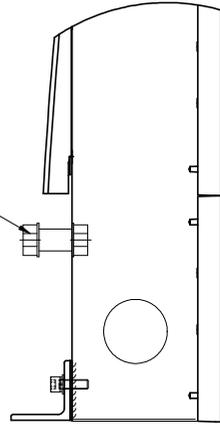


FRONT VIEW

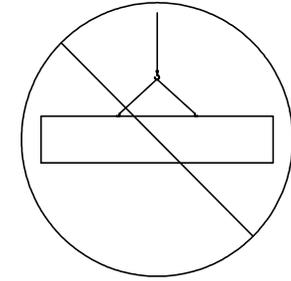
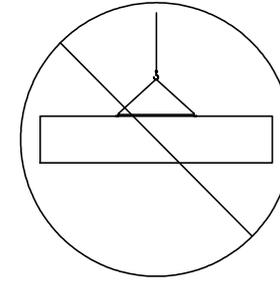
SIDE VIEW

DETAIL K

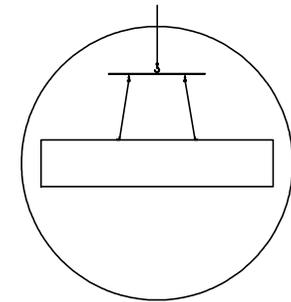
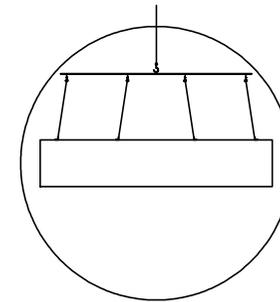
EMT 3/4 compression X
NPSM Male



DETAIL S

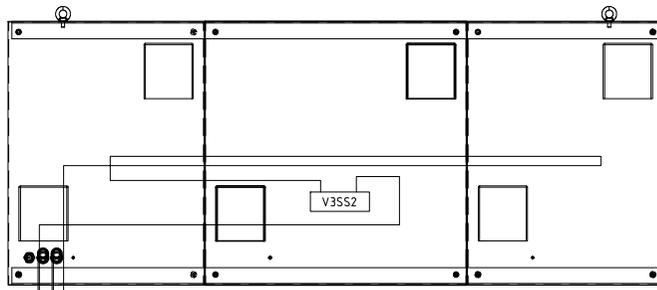


WRONG

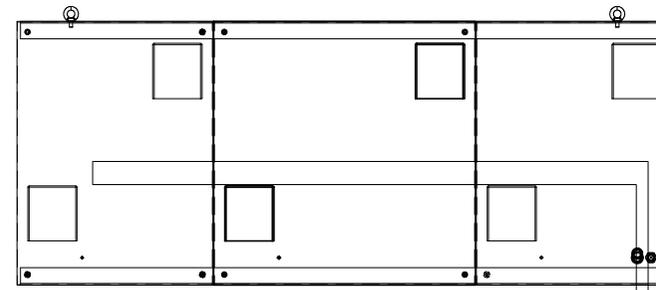


RIGHT

REV.	DATE	DESCRIPTION	BY	APPR
 COPYRIGHT OPTEC DISPLAYS, INC .ALL RIGHTS RESERVED.UNAUTHORIZED REPRODUCTION AND DISTRIBUTION PROHIBITED				
DISPLAY MODEL		2021-000755-INF-MDD-16mm-1R1G1B-QR-60X150-DF-V2		
DRAWING NUMBER		2021-000755-INF-MDD-16mm-1R1G1B-QR-60X150-DF-V2		
REFERENCE				
DESIGNED BY		SCALE/SHEET SIZE	1:1	
DRAWN BY		TOLERANCE	±1/4"	
DATE	2021/09/02	UNITS	MM (INCHS)	
PAGE		REVISION		



PRIMARY BACK VIEW



SECONDARY BACK VIEW

120V AC
POWER DISCONNECT /DISTRIBUTION TYP. BY CUSTOMER. SEE POWER REQUIREMENTS TABLE

COMMUNICATIONS DEVICE

PHOTO AND TEMP SENSOR

Total Power Required: 1080 Watt/Face
Avg. Operating Power: 360 Watt/Face

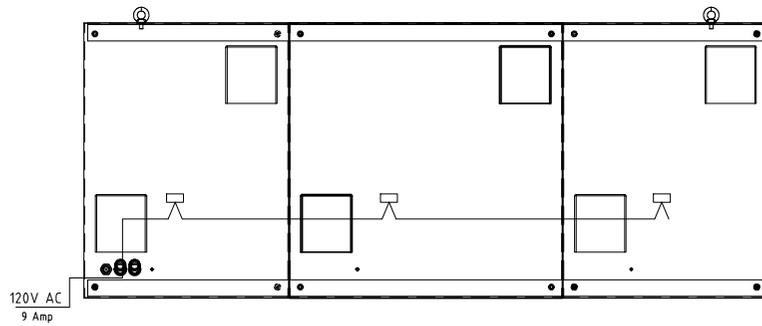
	# of Circuits	Max. Power Load Per Single Face			
		120 VOLT Each Circuit		240 VOLT Each Circuit	
		WATTS	AMPS	WATTS	AMPS
Primary	1	1080	9		
Secondary	1	1080	9		

Total number of circuits per face 1
INPUT VOLTAGE FOR DISPLAY MUST BE SPECIFIED AT TIME OF ORDER

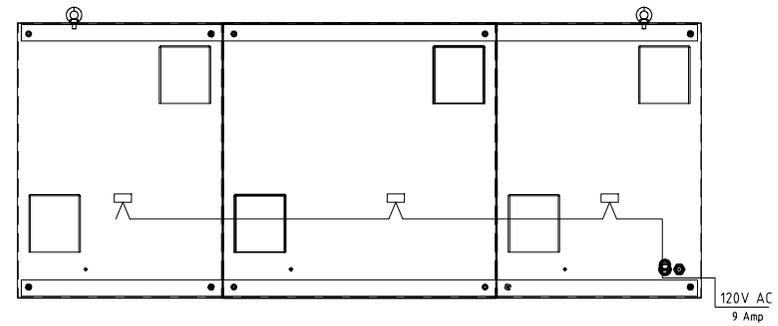
**Electrical must be installed in accordance with the requirements of National Electrical Codes or local codes.

REV.	DATE	DESCRIPTION	BY	APPR
		COPYRIGHT OPTEC DISPLAYS, INC .ALL RIGHTS RESERVED. UNAUTHORIZED REPRODUCTION AND DISTRIBUTION PROHIBITED		
DISPLAY MODEL				
DRAWING NUMBER		2021-000755-INF-M00-16mm-IRIG1B-DR-60X150-DF-V2		
REFERENCE				
DESIGNED BY		SCALE/SHEET SIZE	1:1	
DRAWN BY		TOLERANCE	±1/4"	
DATE	2021/09/02	UNITS	MM (INCHS)	
PAGE		REVISION		

AC wiring Diagram



PRIMARY BACK VIEW



SECONDARY BACK VIEW

Total Power Required: 1080 Watt/Face
Avg. Operating Power: 360 Watt/Face

	# of Circuits	Max. Power Load Per Single Face			
		120 VOLT Each Circuit		240 VOLT Each Circuit	
		WATTS	AMPS	WATTS	AMPS
Primary	1	1080	9		
Secondary	1	1080	9		

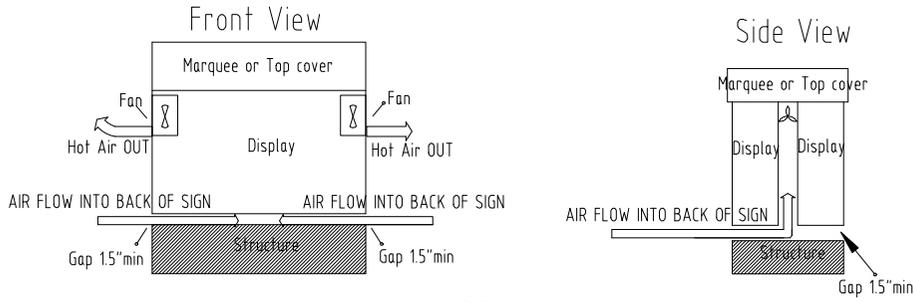
Total number of circuits per face 1
INPUT VOLTAGE FOR DISPLAY MUST BE SPECIFIED AT TIME OF ORDER

xxElectrical must be installed in accordance with the requirements of National Electrical Codes or local codes.

REV.	DATE	DESCRIPTION	BY	APPR
		COPYRIGHT OPTEC DISPLAYS, INC .ALL RIGHTS RESERVED. UNAUTHORIZED REPRODUCTION AND DISTRIBUTION PROHIBITED		
DRAWING MODEL				
DRAWING NUMBER		2021-000755-INF-MOD-16mm-IRIG1B-DR-60X150-DF-V2		
REFERENCE				
DESIGNED BY		SCALE/SHEET SIZE	1:1	
DRAWN BY		TOLERANCE	±1/4"	
DATE	2021/09/02	UNITS	MM (INCHS)	
PAGE		REVISION		

Air Ventilation Requirements(Force Air):
 $FAN\ CFM = 3.19 \times Total\ Watts/20$

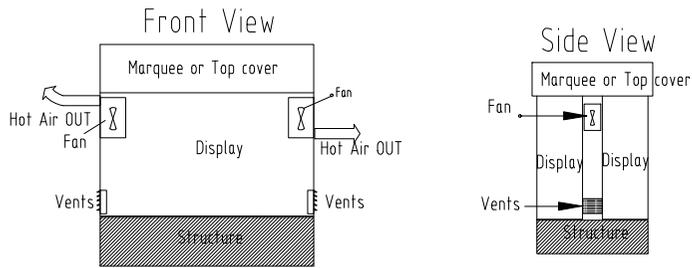
Forced Air Circulation



DO

- DO Provide Sufficient Vents to allow outside air into a skinned/closed structure
- DO Provide Fans if necessary to push Hot Air out of closed Structures
- DO Maintain minimum of 1.5 inch clearance at bottom of enclosed sign
- DO Maintain Temperature inside sign between -22to +130 Degrees F
- DO Keep Temperatures below 110 Degrees F inside cabinet
- DO Provide Axial Air Fans if Air Flow Restricted inside Frame/Structure
- DO Provide Thermal Switches to turn on Fans at 90-105 degrees F

Forced Air Circulation



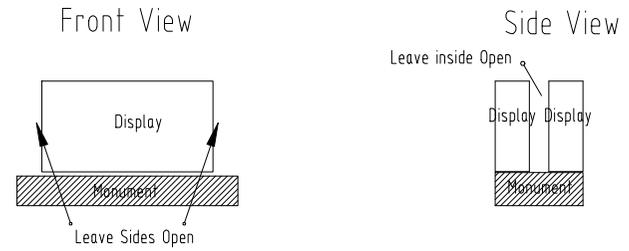
DON'T

- DON'T Block Cabinet Vents at back of Display
- DON'T Place cabinet against a wall without back side of cabinet open to outside air
- DON'T Allow Heat to Rise above 110 Degrees F inside cabinet
- DON'T Mount an ID Sign/Marquee Cover above or below the Optec LED Sign without 1.5" clearance needed for ventilation

NOTE: THE WARRANTY DOES NOT COVER DAMAGES CAUSED BY IMPROPER VENTILATION

AIR Ventilation Requirements(Natural Convection):

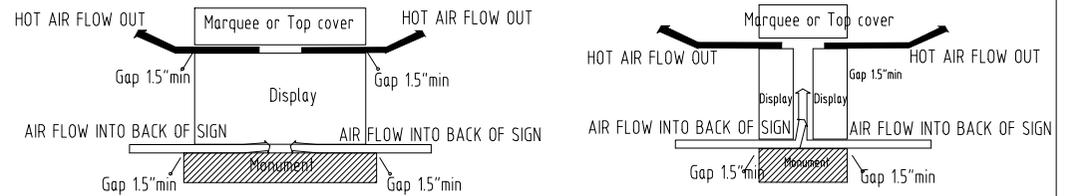
Natural Convection



DO

- DO Provide Outside Air TO Reach Cabinet Air input Vents
- DO Maintain Temperature inside sign -22 to +130 Degrees F
- DO Provide Sufficient Venting For Natural Convection if Skinned
- DO inspect Vents Periodically to Ensure they are Clear/Open
- DO Keep inside cabinet temperature below 110 degrees F
- DO Maintain clearance above and below cabinet a min of 1.5"

Natural Convection II

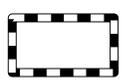
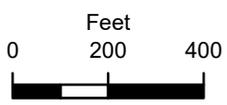


DON'T

- DON'T Block Cabinet Air Vents in back of Display
- DON'T Allow Temperature to Rise Above 110 degrees F

NOTE: THE WARRANTY DOES NOT COVER DAMAGES CAUSED BY IMPROPER VENTILATION

REV.	DATE	DESCRIPTION	BY	APPR
		COPYRIGHT OPTEC DISPLAYS, INC .ALL RIGHTS RESERVED.UNAUTHORIZED REPRODUCTION AND DISTRIBUTION PROHIBITED		
DISPLAY MODEL				
DRAWING NUMBER		2021-000755-INF-MOD-16mm-1R1G1B-OR-60X150-DF-V2		
REFERENCE				
DESIGNED BY		SCALE/SHEET SIZE	1:1	
DRAWN BY		TOLERANCE	±1/4"	
DATE		UNITS	MM (INCHS)	
PAGE		REVISION		



Subject Tract

BOA-23336

20-12 11

Note: Graphic overlays may not precisely align with physical features on the ground.

Aerial Photo Date: 2020/2021



4.18