

SALES LOT - PLOT PLAN
Zoning - C3
General Pan - C

Applicant:
Richardson's RV Centers, Inc.
10717 Indiana Avenue
Riverside, CA 92503
951-354-2288

Owner:
Richardson Real Estate, LLC
10717 Indiana Avenue
Riverside, CA 92503
951-354-2288

Exhibit Preparer:
Electra-Vision Advertising Corp.
751 W. 11th Street
Claremont, CA 91711
909-628-0705

Legal Description:
APN 138-040-007
Lot 16 MB 001070 R.L. & I.O.
APN 138-080-011
Lot 30 MB 001070 SB R.L. & I.O.



VICINITY MAP

CITY OF RIVERSIDE

**RICHARDSON'S RV CENTERS, INC.
PROPOSED FREEWAY SIGN
10717 INDIANA AVENUE
RIVERSIDE, CA 92503**

**SCALE: AS DIMENSIONED
DATE: 06/10/19
REV DATE: 10/26/19**

SHEET 1 OF 7

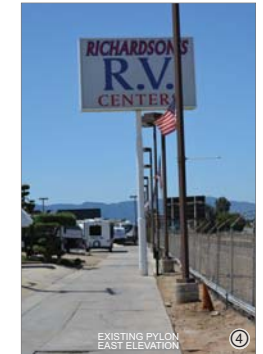
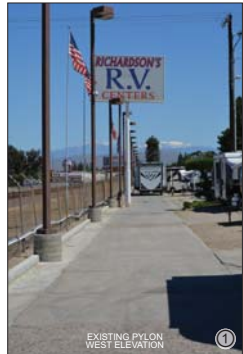


PHOTO KEY



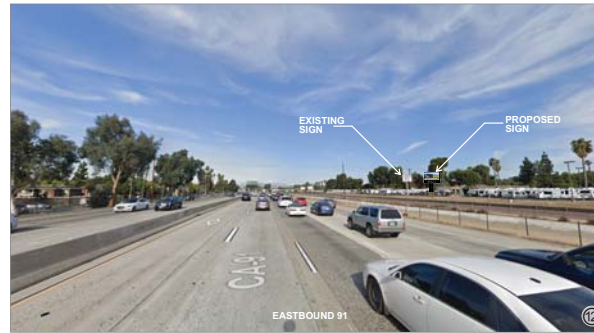
SITE PHOTOS

CITY OF RIVERSIDE

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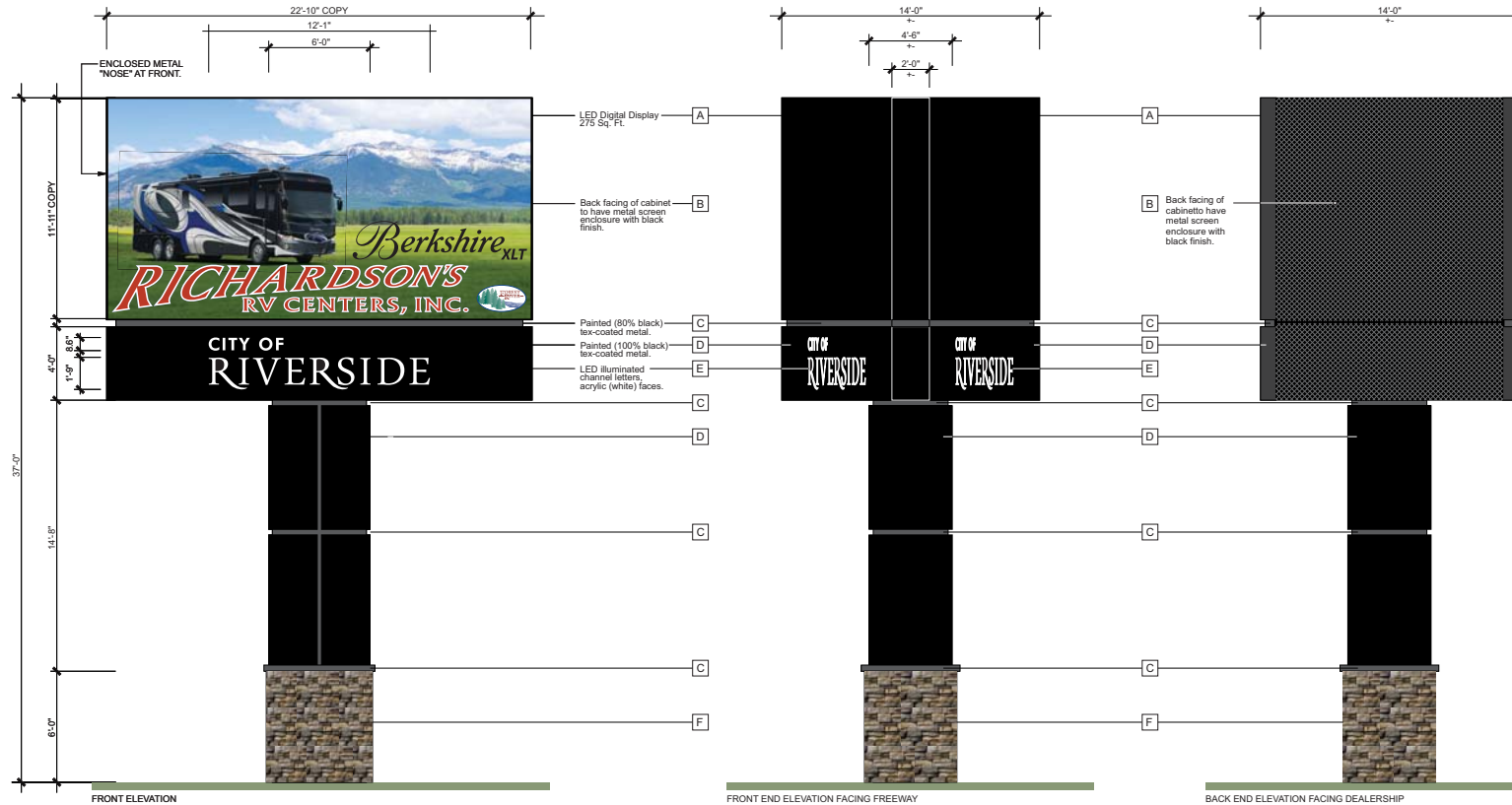
SHEET 2 OF 7



PHOTOSIMULATIONS

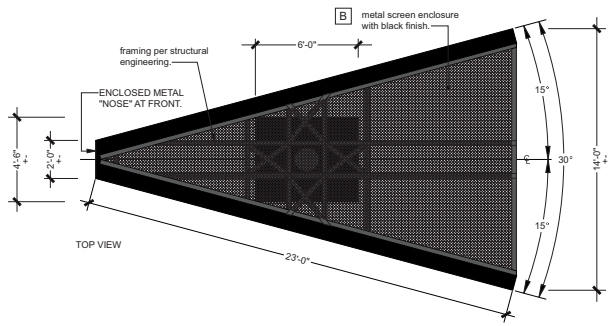
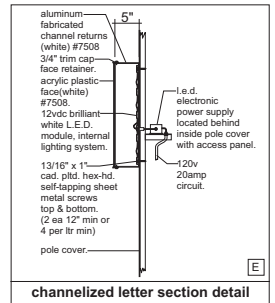
CITY OF RIVERSIDE	
RICHARDSON'S RV CENTERS, INC. PROPOSED FREEWAY SIGN 10717 INDIANA AVENUE RIVERSIDE, CA 92503	
SCALE: AS DIMENSIONED DATE: 06/10/19 REV DATE: 10/26/19	SHEET 3 OF 7

← FREEWAY



LEGEND KEY

- A 19MM OR 16MM COLOR WATCHFIRE OR EQUIVALENT DIGITAL DISPLAY
- B METAL SCREEN MESH (4X8X16G 1/2 EXPANDED METAL SEMI-GLOSS BLACK)
- C PAINT, TEX-COATED, SHEET METAL SKIN, SQUARE TUBE FRAME, COLOR - BLACK (80% BLACK)
- D PAINT, TEX-COATED, SHEET METAL SKIN, SQUARE TUBE FRAME, COLOR - BLACK (80% BLACK)
- E LED ILLUMINATED CHANNEL LETTERS SEE DETAIL THIS SHEET
- F EL DORADO STONE (VENEER) - "WHISKEY CREEK"



ELECTRONIC MESSAGE CENTER

Electronic copy to be displayed no more frequent than eight (8) seconds.

A minimum of 0.3 second of time with no message displayed shall be provided between each message displayed on the sign.

Display shall contain static messages only, and shall not have movement, or the appearance of optical illusion or movement, of any part of the sign structure, design, or pictorial segment of the sign, including the movement or appearance of movement of any illumination, or the flashing, scintillating or varying of light intensity.

Operation hours 5:00 AM to 10:00 PM

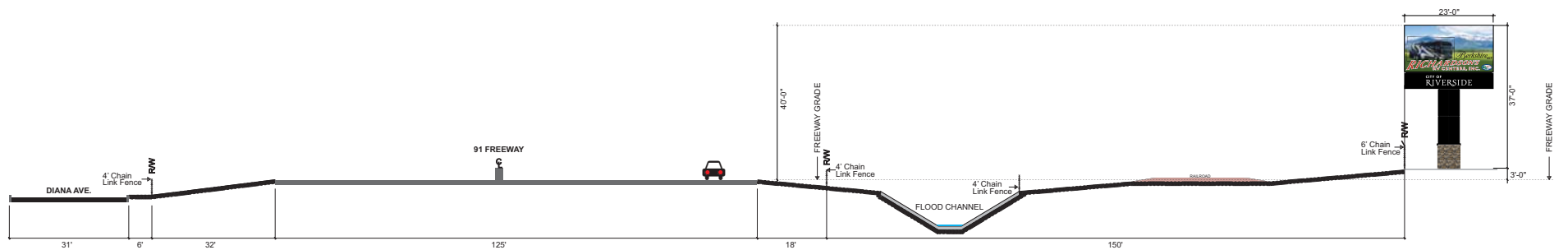
Electronic display shall be equipped with automatic controls to allow for adjustment of brightness based on ambient lighting conditions or can be adjusted to comply with the following illumination requirements as defined in Riverside Municipal Code 19.620.080.C and Table 193.620.080.D

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SHEET 4 OF 7



CROSS SECTION AT SIGN



CITY OF RIVERSIDE

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SHEET 6 OF 7

October 28, 2019

Background on Optical Measurements and Calculations

Watchfire Signs has manufactured outdoor electric signs since 1932 and led signs since 1996. We have more than 60,000 led signs in operation worldwide.

Incandescent signs were commonly measured using illuminance measurements, partly because the light bulb is ideally a point source of light, illuminating equally in all directions, and illuminance meters are commonly available and inexpensive. Foot-candle measurements are made at a defined distance from the sign and the magnitude depends on the physical size of the sign.

LED signs are highly directional however, which is an advantage in an urban setting since the light can be directed more precisely to the intended audience. Luminance measurements have been used to specify LED signs by the industry. The candela per square meter (NITs) unit allows a specification that does not depend on size or viewing distance.

The study done on the sign adjacent to a residential area used actual lab measurements made on modules using an illuminance meter. These measurements and extrapolations are then scaled up to the size of the sign and the distance corrections are made using the inverse square law.

Watchfire adopted brightness standards set forth by both the ISA (International sign Association) and OAAA (Outdoor Advertising Association of America). The standards used are based on the studies of Dr. Lewin and the IESNA (Illuminating Engineering Society of North America).

Below is a list of some of the measurement equipment used by Watchfire engineers.

Equipment used by Watchfire engineers to make lighting measurements:

Foot-candles/Lux - Minolta Illuminance Meter T-10
NITs/candelas/m² - Minolta Luminance Meter LS-100
Sign Calibration - Minolta CS-1000 Spectra radiometer

SIGN LIGHTING STUDY

Sign Details

Size: 11' 11" x 22' 10" Digital Led Display

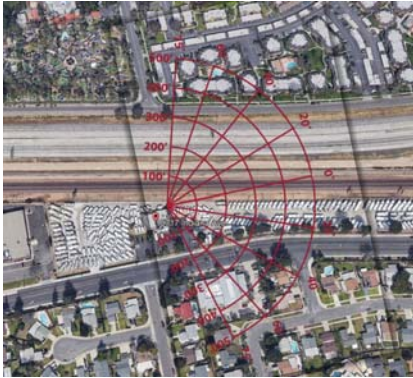
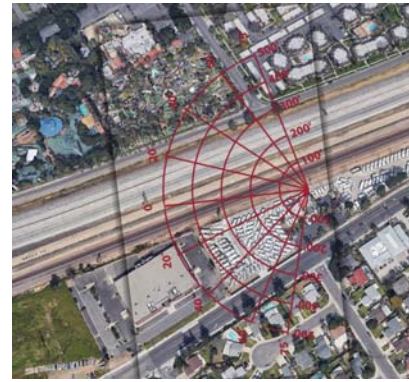
Location: Richardson's RV, 10717 Indiana Avenue

Light measurements are completed in foot-candles. A foot-candle is the amount of light produced by a single candle when measured from 1 foot away. For reference, a 100-watt light bulb produces 137 foot-candles at 1 foot away, 0.548 foot-candles at 50 feet and 0.137 foot-candles at 100 feet.

The table represents the total increase in ambient light produced by the sign under normal or typical operation at night. The ambient light increases will be less than shown in the chart since they fail to consider any objects blocking the line of site to the sign. Obstructions such as trees would further reduce real world overall ambient light increases. In addition to obstructions any existing light within the viewing cone will further diminish any light increase.

	0 degrees	20 degrees	40 degrees	60 degrees	90 degrees
100'	0.7179	0.5923	0.3999	0.1809	0.0259
200'	0.1795	0.1481	0.1000	0.0452	0.0060
300'	0.0798	0.0658	0.0444	0.0207	0.0040
400'	0.0449	0.0370	0.0250	0.0113	0.0022
500'	0.0287	0.0237	0.0160	0.0072	0.0014

Light values in foot-candles at night under typical operation



Conclusion

Given the above comparisons and measurements, the residential area will see an almost undetectable difference in ambient light after installation of a led sign. Ambient light levels in the neighborhood are more heavily impacted by porch lights and landscape lights than the increases produced by a led display.

Ray Digby

office 800-637-2645 x300 Fax 217-442-3020

ray.digby@watchfiresigns.com

LIGHT STUDY

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