**International Dark-Sky Association**

*"…to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting."*

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Kevin Ham
Economic Development Director
City of Vista
200 Civic Center Drive
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Fax: (760) 643-2879

Dear Mr. Ham,

I am writing to you comment on the City of Vista Digital Message Boards Draft Initial Study / Mitigated Negative Declaration (MND).

The MND claims that because most sky glow is produced by roadway and parking lot lighting, that the digital message boards would not be a significant source of sky glow. This is not true.

The light of from digital message boards does not shine directly upward. It is instead projected sideways at angles that are just above and below the horizontal. Research (Luginbuhl, Walker and Winscoat, 2009) has shown that light emitted in this direction produces more light polluting sky glow than light emitted from other sources and that the effects of this low-angle light are visible over a much broader area. This is why last year the State of Arizona banned the use of digital message boards within a 75-mile radius of its astronomical observatories. The MND neglects to account for impact on sky glow from this sideways-directed light in the immediate area and to the astronomical observatories located in San Diego County.

The MND finds that the that the digital message boards will not be a source of glare because, "The display is brighter in the daytime than in darkness, and responds to changes in the ambient light conditions." The fact that the intensity will be lessened in the night is not an indication that there will be no glare. Many digital message boards shine with an excessive intensity at night. Without metrics for the intensity of the illumination of the signs it is difficult to see how a finding of less than significant impact could have been determined.

It is further stated in the MND that, "The signs would also comply with guidelines of the Outdoor Advertising Association of America (OAAA). These optional guidelines specify that lighting levels on the digital message boards would not exceed 0.3 foot candles over ambient levels, as measured using a foot candle meter at a pre-set distance based on the size of the sign." This standard is insufficient, as glare is not measured in this

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manner. Glare is determined through a calculation of the intensity of the light source, yet none is provided.

Further, this luminous intensity is more properly measured in candelas per square meter (nits), the standard for measuring the brightness of illuminated signs. The foot-candle measures illuminance, something else entirely.

A second way to determine the amount of glare is to measure the luminance contrast between the light source and the background. Without proper metrics of the luminous intensity of the digital message boards and some measure of the intensity of the ambient lighting, it is impossible to determine that there would be a less than significant impact from glare produced by the digital message boards.

The MND states that "The University Drive Site Alternative 1 Site would be approximately 250 feet away from high density residential to the west of the project site, while the University Drive Site Alternative 2 Site does not have residences within 250 feet of the project site. Therefore, the glare from a message board in these locations would not affect nearby residences." There is no evidence to support the claim that glare from the message board would not affect nearby residences. The 250-foot limit comes from the OAAA report and the claim is not supported with data. A detailed study that provides estimates of the brightness of the message boards at the property lines would be needed to determine the impact from glare and light trespass that these signs will have upon residences.

Given that the findings of the MND are insufficient with regard to sky glow and glare, the International Dark-Sky Association recommends that the MND be rejected and that the City instead prepare an Environment Impact Report for public comment that would properly assess the project's environmental impacts.

Sincerely,

W. Scott Kardel
Managing Director
International Dark-Sky Association