

ORDINANCE NO. _____

AN ORDINANCE OF THE COUNCIL OF THE CITY OF MESA, MARICOPA COUNTY, ARIZONA, AMENDING THE CITY OF MESA CODE PERTAINING TO THE, MESA LIGHTING AND ELECTRICAL CODE, SUBDIVISION REGULATIONS, AND OFF-SITE IMPROVEMENT REGULATIONS RELATED TO ADAPTIVE STREET LIGHTING; AMENDING TITLE 4, CHAPTER 4, SECTION 1; TITLE 9, CHAPTER 6, SECTIONS 1, 4, AND 5; AND TITLE 9, CHAPTER 8, SECTION 3.

WHEREAS, the Mesa City Council previously authorized a pilot study to explore the safety and impact of reducing the power level, and by extension the illumination levels, for City streetlights similar to the dark sky lighting levels of other municipalities in Arizona; and

WHEREAS, the pilot study established that power levels could be reduced to levels that both reduce unwanted light pollution and light intrusion, while also providing adequate lighting to protect the safety of the citizens of Mesa and the traveling public; and

WHEREAS, staff incorporated the data from the pilot study into a Streetlight Master Plan Report, which recommended, among other things that the City expand its use of LED streetlights with dimming technology throughout the City; and

WHEREAS, the Council has been presented with the Streetlight Master Plan Report and hereby finds and determines as a matter of fundamental government policy that adaptive street lighting and the ability to adjust the illumination levels of such lighting serves an important public purpose, and that the power levels of the City's LED streetlights may be reduced to as low as twenty-five percent (25%) of the maximum power level on arterial streets in the areas identified as "Lighting Zone 1" in the Street Light Master Plan Report dated June 2019 (generally, rural and low density residential areas), and as low as forty-five (45%) of the maximum power level in all other areas and streets within the City, and hereby establishes these levels as minimum safety standards for City streetlights; and

WHEREAS, the Council hereby determines that revisions to the City Code to allow for reduced streetlight power levels and to clarify definitions and requirements for street lighting will benefit the citizens of Mesa and ensure consistency within the Code;

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF MESA, MARICOPA COUNTY, ARIZONA, AS FOLLOWS:

Text written in BOLD ALL CAPS indicates new language. Strikethrough -fonts indicates deletions

Section 1: Title 4, Chapter 4, Section 1(C) is hereby amended as follows:

- (C) ~~Conformance with Applicable Standards. All outdoor artificial illuminating devices shall be installed in conformance with recognized standards as approved by the American National Standards Institute (ANSI) and the Illumination Engineering Society of North America (IES).~~ Public street lighting shall be in conformance with

the City of Mesa engineering and design standards.

Section 2: The Clerk is hereby authorized and directed to reorganize the definitions in Title 4, Chapter 4, Section 1(D) in alphabetical order, and further the definition for “Outdoor Light Fixtures” in Title 4, Chapter 4, Section 1(D), is hereby amended as follows (all other definitions of M.C.C. 4-4-1(D) shall remain the same):

- (D) **OUTDOOR LIGHT FIXTURES:** Outdoor artificial illuminating devices, outdoor fixtures, lamps, and other devices, permanent or portable, used for illumination or advertisement. Such devices shall include, but are not limited to, lighting for buildings and structures, recreational areas, parking lots, landscape areas, billboards and other signage, and **PRIVATE** street lighting.

Section 3: Title 4, Chapter 4, Section 1(D) is hereby repealed as follows, and the Clerk is hereby authorized and directed to re-letter the remaining sub-sections for M.C.C. 4-4-1 accordingly:

- ~~(E) **Where Required:** All exterior walkways, parks, parking lots, sales areas, or similar facilities which are intended to be occupied by the public during hours of darkness shall be provided with illumination to the minimum level recommended by IES standards for the use intended, during hours of normal occupation.~~

Section 4: The Clerk is hereby authorized and directed to reorganize the definitions in Title 9, Chapter 6, Section 1(C) in alphabetical order, and further Title 9, Chapter 6, Section 1(C) is hereby amended by repealing the definitions for Maximum Pilot Lumen Level and Minimum Pilot Lumen Level, modifying the definition for Full Cutoff Streetlight Fixture and adding a definition for Adaptive Lighting, as follows (all other definitions in M.C.C. 9-6-1(C) not changed by this Ordinance shall remain the same):

ADAPTIVE LIGHTING: LIGHTING WITH THE ABILITY TO AUTOMATICALLY ADJUST LIGHT LEVEL AND SPECTRAL CONTENT BASED ON ENVIRONMENTAL CONDITIONS IN ORDER TO OPTIMIZE SPACE, HUMAN, AND BUILDING PERFORMANCE.

FULL CUTOFF STREETLIGHT FIXTURE: Streetlight fixtures, ~~with either a HPS or LED light source,~~ where no light is emitted by the fixture above an angle of 90 degrees above nadir (no light emitted above the horizontal).

~~**MAXIMUM PILOT LUMEN LEVEL:** The illumination level required by Roadway Lighting ANSI/IES RP-8.~~

~~**MINIMUM PILOT LUMEN LEVEL:** A level not less than thirty-three (33) percent of the illumination levels required by Roadway Lighting ANSI/IES RP-8.~~

Section 5: Title 9, Chapter 6, Section 4(D)(10) is hereby amended as follows:

10. Streetlights. Streetlights shall be installed along all streets within the subdivision

and along all perimeter streets developed in conjunction with the subdivision. Streetlights shall be LED ~~or HPS~~ and shall be installed by the subdivider in accordance with plans approved by the City and in conformance with City **ENGINEERING AND DESIGN** Standards. Streetlight illumination levels shall comply with the Streetlight Lumen Level and City Engineering **AND DESIGN** Standards. LED lights shall have a **CORRELATED** color temperature (**DEGREES K**kelvin) rating **AS SPECIFIED IN THE CITY ENGINEERING AND DESIGN STANDARDS AND STREETLIGHT TECHNICAL MANUAL**, ~~approved by the Transportation Department Director. For a single parcel development with less than one hundred fifty feet (150') of street frontage, the City Engineer may waive the required streetlight installation. If installation is waived, prior to the issuance of a building permit, the subdivider shall pay an amount determined by the City based on the street frontage to pay for the future installation of streetlights by the City or others.~~

~~(a) — Pilot Program. During the Pilot Study Period and within the Pilot Study Areas, the City's Transportation Department Director, or his designee, may reduce and vary the streetlighting lumen levels (including from week to week, day to day, or within a single night or with the use of a time of night dimming schedule) so long as the lumen level is not lower than the Minimum Pilot Lumen Level or greater than the Maximum Pilot Lumen Level.~~

~~i. — Within ninety days after the Pilot Study Period, the illumination levels that were reduced under the Pilot Study shall be brought into conformance with the Streetlight Lumen Level.~~

~~ii. — The Pilot Program shall not apply to new streetlights installed in connection with City capital improvement projects or non-City projects except as may be approved by the Transportation Department Director with a dimming system that complies with the Pilot Program requirements in Subsection 9-6-4(D)(10)(a).~~

(A) ADAPTIVE LIGHTING. PUBLIC STREET LIGHTS MAY BE DIMMED IN ACCORDANCE WITH CITY ENGINEERING AND DESIGN STANDARDS, WHICH SHALL ALLOW STREET LIGHT POWER LEVELS TO BE REDUCED TO AS LOW AS TWENTY-FIVE PERCENT (25%) OF MAXIMUM POWER LEVEL ON ARTERIAL STREETS IN LIGHTING ZONE 1, AS IDENTIFIED IN THE STREET LIGHT MASTER PLAN REPORT DATED JUNE 2019, A COPY OF WHICH IS ON FILE WITH THE CITY TRANSPORTATION DEPARTMENT, AND AS LOW AS FORTY-FIVE PERCENT (45%) OF MAXIMUM POWER LEVEL ON ALL OTHER AREAS OF, AND STREETS WITHIN, THE CITY.

Section 6: That Title 9, Chapter 6, Section 4(D)(11) is hereby amended as follows:

11. Traffic Control Devices. Traffic control devices shall be provided or existing control devices shall be modified in conjunction with the development in accordance with designs approved by the Development Services Department, where required in accordance with the Mesa Transportation ~~Division~~ **DEPARTMENT**. The Transportation ~~Division~~ **DEPARTMENT** may defer the

installation of required traffic control devices.

When the installation of required traffic control devices is deferred, the owner/developer shall pay the City a payment in-lieu of causing the actual design, installation, and/or construction of the devices. This in-lieu payment shall be based upon a cost estimate prepared by a professionally registered civil engineer and approved by the City of Mesa. The in-lieu payment cost estimate shall include all design costs, labor and materials costs, plus twenty percent (20%) for future contingency costs. All in-lieu payments shall be remitted to the City of Mesa as a condition of and in conjunction with the issuance of any on-site construction permits and/or off-site rights-of-way permits associated with the development project.

Section 7: Title 9, Chapter 6, Sections 4(H)(4) is hereby amended as follows:

4. Streetlights may consist of decorative poles and decorative post top mounted fixtures as approved by the ~~City Traffic Engineer~~ **TRANSPORTATION DEPARTMENT DIRECTOR OR DESIGNEE**, with a typical mounting height of approximately sixteen-feet (16'), but in no case lower than sixteen feet (16') or higher than twenty-five feet (25').

Section 8: That Title 9, Chapter 6, Sections 4(I)(7) is hereby amended as follows:

7. Streetlights may be decorative post top style fixtures, as approved by the ~~City Traffic Engineer~~ **TRANSPORTATION DEPARTMENT DIRECTOR OR DESIGNEE**, to meet the theme of the community. Light source shall be ~~either HPS (High Pressure Sodium) or LED (Light Emitting Diode).~~

Section 9: That Title 9, Chapter 6, Sections 5(B)(9)(D)(1) is hereby amended as follows:

1. Full cutoff streetlight fixtures shall be required in the Desert Uplands Area. ~~Fixtures may be HPS or LED.~~

Section 10: That Title 9, Chapter 6, Sections 5(B)(9)(D)(2) is hereby amended as follows:

2. Streetlights on major streets ~~and collector streets~~ shall comply with City standard illumination and spacing requirements except as specified in Subsections (D)(3), (D)(6), and (D)(7) of this Section and Section 9-6-4(D)(10). Streetlights shall not be installed in medians except as may be approved by the Transportation Department Director after considering potential light pollution impacts on adjacent residential property. Mounting height shall be thirty-five feet (35') to forty feet (40').

Section 11: That Title 9, Chapter 6, Sections 5(B)(9)(D)(8) is hereby amended as follows:

8. Streetlighting in the Desert Uplands Area is subject to the requirements, provisions, and modifications in Subsection 9-6-4(D)(10), except as specified in Subsections (D)(3), (D)(4), (D)(6), and (D)(7) of this Section, ~~and is subject to the Pilot Program in Subsection 9-6-4(D)(10)(a).~~

Section 12: That Title 9, Chapter 8, Section 3(H)(8) is hereby amended as follows:

8. Streetlights. Streetlights shall be installed ~~along all perimeter streets developed in conjunction with the development in accordance with a design approved by the Development Services Department. For developments with less than one hundred fifty feet (150') of street frontage, the City Engineer may waive the required streetlight installation. If installation is waived, prior to the issuance of a building permit, the developer shall pay to the City an amount, determined by the Development Services Department, for his arterial street frontage to pay for the future installation of streetlights by the City. All streetlights along other perimeter streets shall be installed by the developer in accordance with plans approved by the Development Services Department and in conformance with City standards.~~ **IN ACCORDANCE WITH 9-6-4: (D)10 OF CITY CODE AND PER CITY ENGINEERING & DESIGN STANDARDS.**

Section 13: RECITALS. The recitals above are fully incorporated in this Ordinance by reference.

Section 14: IMPLEMENTATION: The Council has hereby found and determined that it is safe and desirable to allow for reduced illumination of streetlights in certain areas of the City. In those areas designated as "Lighting Zone 1" in the Street Light Master Plan Report dated June 2019 (generally, rural and low-density residential areas), the power to streetlights on arterial streets may be reduced to as low as twenty-five percent (25%) of maximum power level. In all other areas of, and streets within, the City, the power level of streetlights may be reduced to as low as forty-five (45%) of maximum power level.

Section 15: EFFECTIVE DATE. The effective date of this Ordinance shall be thirty (30) days following adoption by the Mesa City Council.

Section 16: PRESERVATION OF RIGHTS AND DUTIES. This Ordinance does not affect the rights and duties that matured, penalties that were incurred, or proceedings that were begun before the effective date of this Ordinance.

Section 17: SEVERABILITY. If any section, subsection, sentence, clause, phrase, or portion of this Ordinance or any part of the material adopted herein by reference is for any reason held to be invalid or unconstitutional by the decision of a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions thereof.

PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF MESA, MARICOPA COUNTY, ARIZONA, this 2nd day of December, 2019.

APPROVED:

Mayor

ATTEST:

City Clerk