

July 28, 2024

Dear Kelly,

We have reviewed the proposed Lighting ordinance (the version that was available to the ARB) and our comments are attached,

Please note that we are still looking at this, and comparing with our Model Lighting Ordinance Ordinance (Available Here:

<https://docs.google.com/document/d/1Nqe19ColokeJGwsWsXCwZz9-Mx2mrTaJQwYLzmeepfg/edit#heading=h.406ajo23pzbb>)

Thank you so much,

Santa Clara Valley Audubon Society and Sierra Club Comments on Lighting Ordinance (ARB version)

### **Lighting (Repeal PAMC Section 18.40.250)**

#### **Consider adding:**

- Please include Lumens caps (e.g., allowed amount of lumens per improved acre) to limit over-lighting. Malibu's ordinance has Lumen caps, often 850 lumens. Brisbane has a maximum lumen/square foot. Our Model Lighting ordinance suggests:
  - Illumination Levels: Lighting in which any single luminaire exceeds 20,000 lumens or the total lighting load exceeds 160,000 lumens shall not be installed or used without a conditional use permit.
- Please add regulations for parking garages? Our Model Ordinance requires Lighting Controls for Lighting under canopies or lighting for tunnels, parking garages, and garage entrances.
- The ordinance should include a restriction on the total amount of unshielded lighting allowed on a property. This would capture string lighting, for example.

#### **Comments on the proposed ordinance (ARB version):**

##### **(a) Purpose.**

"The intent of this section is to establish exterior lighting standards to reduce light pollution. Exterior lighting of parking areas, pathways, and common open spaces, including fixtures on building facades and free-standing lighting should aim to:"

- **Comment:** It's unclear why the preamble specifically calls out "exterior lighting of parking areas, pathways, and common open spaces, including fixtures on building facades and free-standing

lighting". The statement in section (c) says that the ordinance applies to "require separate planning approval". It's just odd that the phrasing in (a) is so specific, and omits many other potential exterior lighting areas.

- **Suggestion:** Consider replacing "Exterior lighting of parking areas, pathways, and common open spaces, including fixtures on building facades and free-standing lighting should aim to:" with "Exterior lighting should aim to accomplish the 5 Principles for Outdoor Lighting, directing light to be 1) useful, 2) targeted, 3) low level, 4) controlled, and 5) warm-colored and"

(1) Reduce light pollution and its adverse effects on environment, wildlife habitat, and human health.

- **Comment:** The Night Sky, visibility of stars, is important.
- **Suggestion:** Add "the night sky" or replace "environment" with "the night sky"

(4) Achieve maximum energy efficiency.

- **Comment:** The important thing is to reduce overlighting in time and space that wastes energy. We are concerned with specifying "Maximum efficiency" as it may lead to installation of very fixtures of high Correlated Color Temperature, which conflicts with the intent of this section.
- **Suggestion:** Replace "Achieve maximum energy efficiency" with: "promote lighting systems and practices that conserve energy and prevent overlighting"

**(b) Definitions.** Notwithstanding the definitions in Chapter 18.04 of the Municipal Code, for purposes of this chapter only, the following words and phrases are defined as follows:

(b) (1) "Correlated Color Temperature" or "Color Temperature" means a specification of the color appearance of the light emitted by a light source, measured in Kelvin (K). Warmer color temperatures are a lower number, and cooler color temperatures are a higher number.

- **Comment:** This wording confuses color temperature with the hue of light.
- **Suggestion:** Replace: "Warmer color temperatures are a lower number, and cooler color temperatures are a higher number." with the more accurate "Sources that appear warm or yellowish have lower CCT values, and sources that appear cool or blue have higher values".

(2) "Dark Sky Compliant or Equivalent" means a light fixture from which all light emitted, directly or indirectly, is projected below a horizontal plane.

- **Comment:** this could confuse property owners. No one owns the term "dark sky compliant", so words like that appear in sales literature and on product packaging for lighting that doesn't meet the stated definition here. Someone could make an honest effort to comply and still fail because "dark sky compliant" is essentially a meaningless term.
- **Suggestion:** Remove this definition, replace with specific requirements.

(5) "High Intensity Lighting"

- **Comment:** This term is ambiguous in that it implies a number or other metric that explains why the "intensity" is "high". A veteran lighting consultant we talked to stated that he has never before seen an instance where this term was intended to refer specifically to outdoor sports lighting.

(9) "Luminaires"

- **Suggestion:** Please make clear that this term does not include poles or mounting surfaces.

(11) "Security lighting"

- **Comment:** There's no consistent evidence that lighting can "detect intrusions or other criminal activity occurring on a property or site". It may help people feel secure, and perhaps the intent is to *deter rather than detect* criminal activity. There is no evidence to suggest that works, either.

(c) Applicability

For the purposes of this Section, all new structures and exterior modifications that require separate planning approval shall comply with the lighting standards and guidelines set forth in this section

- **Comments/Suggestions:** Expand Applicability to Existing Fixtures
  - A recent feature of several adopted Dark Sky Ordinances is the application of Dark Sky standards to existing lighting fixtures, as seen in Malibu and Brisbane. Existing, non-compliant lighting that can be adjusted without replacing the fixture should be brought into compliance within a short grace period of time. Lighting that requires new fixtures or installations should be allowed a grace period of up to 5 years. Addressing existing lighting will empower neighbors affected by light pollution to seek resolution through code enforcement if needed.
  - The proposed ordinance suggests a 10 PM curfew for new permitted buildings, but does not apply to existing structures. We ask for a curfew on outdoor lighting to apply to existing buildings. If only new buildings are subject to curfew, the result will be a patchwork of compliance that undermines the ordinance's goals. It's also unfair for new structures to comply while existing structures do not.

(d) Lighting Guidelines

(1) Lighting of the building exterior, parking areas and pedestrian ways should be of the lowest intensity and energy use adequate for its purpose, and be designed to focus illumination downward to avoid excessive illumination above the light fixture.

- **Comment:** Here, too, we are not sure why the bullet calls out "lighting of the building exterior, parking areas and pedestrian ways". Rather, ***all exterior lighting should follow the guidelines.***

(2) Unnecessary continued illumination, such as illuminated signs or back-lit awnings, should be avoided. Internal illumination of signs, where allowed, should be limited to letters and graphic elements, with the surrounding background opaque. Illumination should be by low intensity lamps.

- **Comment:** we recommend against using language in ordinances like "should be avoided". Either something complies with the law or it doesn't. Language that is only advisory and not binding shouldn't appear in statutory law. Also, the use of "low intensity" here is like the objection above to "high intensity lighting" -- there is no metric that establishes what either "high" or "low" is. Please be specific!

#### (e) Lighting Standards

##### (1) Shielding

- **Suggestion:** lead with a statement like "Unless specifically exempted by subsection (E) of this section".

(1)(D) No direct off-site glare from a light source shall be visible above three feet at a public **right-of-way**

- **Comment:** This is a good standard. We wonder how this may be enforced. Is a citizen complaint, if someone complains. Is the attestation of code compliance staff that they observe glare sufficient to establish a violation? (they usually do n

(1)(E)(ii): Low voltage lighting used to illuminate outdoor art or public monuments that do not have to be shielded fixtures.

- **Question:** Does lightning of art have to comply with curfew directions?
- **Comment/Suggestion:** "Low voltage lighting" needs a number, like the 150-lumen limit in item (E)(i).

(1)(E)(iii): Lighting located on property lines (including zero lot line developments), provided it is controlled by a motion sensor that automatically extinguishes the lights within 10 minutes of activation.

- **Comment/Suggestion:** 10 minutes is a long time for a light to be on when controlled by a motion sensor. We recommend no more than 5 minutes. Also, the onus should be on the owner of the equipment to ensure that the trigger threshold is set such that it does not trigger inappropriately (due to, e.g., small animals)

##### (2) Lighting Height:

(2)(A) Exterior lighting fixtures shall be mounted less than or equal to 15 feet from grade to top of fixture in parking lots in residential development and 20 feet in parking lots with commercial and mixed-use development.

- **Comment:** Seems redundant with subsection (e)(1)(b). Is there any substantial difference?

##### (3) Illumination Level

(3)(A) All light sources shall be Dark Sky Compliant or Equivalent and have a maintained correlated color temperature of 3,000 Kelvin or less.

- **Comment:** confusing in that this standard is about color temperature, not illumination level. It should be in its own subsection.
- **Comment:** There is no sound reason to ask for 3000K for outdoor lighting. Lighting should not exceed 2700K. PA should not use an industrial indoor safety for outdoor lighting. To our human eyes, there is no difference between these two color temperatures in terms of discerning the environment. But many genera of wildlife, however, are far more sensitive to bluer color temperatures than we are, including birds, fish, insects, and sea turtles. For example, migratory birds use blue-green spectrum light for navigation. High kelvin lights in the city can disorient them, especially in an important stopover like San Francisco Bay. It seems that inertia from times that 2700K were hard to procure has a daunting effect here - LED technology has improved and we should not stick to old harmful technology when alternatives are available. If Los Altos and San Jose can require 2700K for outdoor lighting, so can Palo Alto.

(3)(B) Where the light source is visible from outside the property boundaries on an abutting residential use, such lighting shall not exceed 0.5 foot-candle as measured at the abutting property line.

- **Comment:** This standard only envisions that light trespass can occur "on an abutting residential use". This should change in two respects. First, the nature of the use shouldn't matter (residential or any other use). And second, it shouldn't be limited only to "abutting" properties. The light trespass threshold should not be exceeded on ANY other property line, whether abutting or not.
- **Comment/Suggestion:** Why not prohibit light sources from being visible from a) above and b) beyond the property line? That would reduce glare and light trespass, and allow public/neighbors to address one of the most common complaints. It will also ensure that shielding is effective.
- **Suggestion:** Replace with Brisbane's ordinance for this standard: *"Unless exempt from the ordinance or from the shielding requirements in the ordinance, no light source (e.g., light bulb) may be directly visible from off-site."*

(3)(C) The maximum light intensity on a site shall not exceed a maintained value of 5 foot-candles. Areas of higher or lower levels of illumination should be indicated on project plans.

- **Comment:** This statement is ambiguous: "Areas of higher or lower levels of illumination should be indicated on project plans." Does this mean it's possible for the allowed illuminance to exceed 5 foot-candles? If so, perhaps don't state 5 fc as a "shall not exceed" in the first place?
- **Comment:** Brisbane has a maximum 1.75 Lumens per sq. ft. of Developed area. Is this a better measure?
- **Comment:** May need to exempt sport fields, where the IES recommended practice potentially prescribes more than this

(4)(A) All outdoor lighting shall be fully extinguished or be motion sensor operated by 10:00 p.m. or when people are no longer present in exterior areas, whichever is later.

- **Comment:** We are very supportive of this standard, but it is not clear how the presence of people is determined...
- **Comment:** Are there any exceptions that the City can envision? We hope there are none.

(4)(B) All lighting activated by motion sensor shall be set up to extinguish no more than 10 minutes after activation.

- **Comment:** Same as above, the 10-minute allowance here should be no more than 5.

(4)(E) Exceptions.

(E)(ii) Lighting of an appropriate intensity, allowed in conjunction with uses that are permitted to operate past 10:00 p.m., with a conditional use permit; and

- **Comment:** What is "an appropriate intensity"? Who decides that?

#### (f) Special Purpose Lighting

(f)(1) Outdoor Security Lighting. Security lighting may be provided when necessary to protect persons and property. When security lighting is utilized only the following standards shall apply:

- **Comment:** who decides when lighting is "necessary to protect persons and property"? The property owner?

(f)(1)(i) Security lighting shall be controlled by a programmable motion-sensor device, except where continuous lighting is required by the California Building Code. All lighting activated by motion sensors shall extinguish no more than 10 minutes after activation. Automated controls shall be fully programmable and supported by battery or similar backup.

- **Comment:** Again, 5 minutes should suffice.

(f)(1)(iii) Security lights intended to illuminate a perimeter, such as a fence line, are permitted only if such lights do not result in light trespass above 0.5 foot-candle onto an adjacent or nearby property, with the illumination level measured at the property line between the lot on which the light is located and the adjacent lot, at the point nearest to the light source.

- **Comment:** Same concerns as before about how the light trespass threshold and measurement point is defined. Security lighting should not cause trespass on any other property, whether "adjacent or nearby" or not.

(f)(1)(iv) Motion-activated security lights shall not use luminaires that exceed 100-watt incandescent bulb or LED equivalent, or a maximum of 1,600 lumens.

- **Comment:** Since there is no cap on installed lumens on any property, setting a threshold like this isn't very meaningful. Under this provision, a property owner could install as many security lights as they like as long as no individual source exceeded 1600 lumens.
- **Suggestion:** Provide a cap on lumen (see above)

(f)(3) Gasoline Service Station Lighting

(f)(3)(i) Lighting fixtures in the ceiling of canopies shall be fully recessed or mounted directly to the underside of the canopy. All lighting fixtures shall be located so as to shield direct rays from adjoining properties or public rights-of-way.

- **Comment:** Instead of limiting trespass to "adjoining properties", it should be limited to "any property".

(f)(3)(iii) The maximum light intensity under the canopy shall not exceed an average maintained foot-candle (horizontal) of 12.5, when measured at finished grade.

- **Comment:** It's unclear where the 12.5 foot-candle figure comes from, but seems ok. Is this what local gas stations in Palo Alto currently use?

(f)(4) String Lighting

(f)(4)(i) String lighting is not considered holiday or seasonal lighting.

- **Comment:** Thank you for this clarification.

(f)(4)(ii) String lighting must not exceed 3,000 Kelvin or 42 lumens and shall not be blinking or chasing.

- **Comment:** This is so confusing... why 3000K and not 2700? What Is the "42 lumens" limit here per lamp? Per unit length of string? Total emission of all lamps on the string? Brisbane has "String lights (max. 300 lumens per string) when used in occupied decks or patios."
- Why is string lighting in residential areas not required to turn the lights off at 10PM? people use string lighting as ornaments on fences, trees etc. A curfew is very much needed.

(f)(4)(iii) For nonresidential areas, string lighting shall be extinguished at 10:00 pm or 2 hours after close of business, whichever is later.

- **Comment:** The reason for allowing string lighting to remain on up to "2 hours after close of business" is unclear. If, as in item (iv), its use is limited to "outside dining or display areas or common open space (i.e. courtyard or patio)", why should it be allowed to remain on after the business closes to the public?

(f)(5) Lighting near Streams. In addition to lighting standards established in Section 18.40.250(e), lighting near streams shall conform to the following requirements:

(f)(5)(i) Nighttime lighting shall be directed away from the riparian corridor of a stream.

- **Comment:** We need to see how this is addressed in the Creek protection ordinance update. At a minimum, we should require absolutely no light trespass into a stream and its associated riparian corridor. This means within the banks plus any riparian vegetation as defined by the dripline of riparian trees.

(f)(5)(ii) The distance between nighttime lighting and the riparian corridor of a stream should be maximized.

- **Comment:** "should be maximized" isn't really meaningful unless something like a minimum allowable distance is stated. Otherwise this is sufficiently subjective as to be meaningless. At a minimum, this should entail the creek within its banks plus any riparian vegetation as defined by the dripline of riparian trees, and setback requirements that are likely to be specified in the upcoming Creek protection ordinance, whichever is widest!

(g) Prohibited Lighting. The following types of lighting are prohibited except emergencies by police, fire, or medical personnel or at their direction:

- **Comment:** how are "emergencies" defined? Declared emergencies by local civil authorities? Or some other mechanism?

(g)(2) Lighting that unnecessarily illuminates any other lot or substantially interferes with use or enjoyment of that lot.

- **Comment:** The meaning of the word "unnecessarily" is unclear. Who decides what is necessary?

#### (h) Exemptions.

The following types of lighting are exempt from the lighting requirements of the section:

(h)(2) Temporary construction or emergency lighting

- **Comment:** We have seen very bright, unshielded construction and security lights on construction sites with offensive glare on large construction projects that lasted several years.
- **Suggestion:** The term "temporary" should be defined here.
- **Suggestion:** The term "construction lighting" should be defined. **The ordinance should clarify the** Construction lighting should only be allowed at the hours construction actually occurs. The definition should exclude security lighting at a construction site from the definition of construction lighting. Security lighting at a construction site should abide by the ordinance.
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(h)(3) Short-term lighting authorized by a special events or special use permits



- **Comment:** This seems like it needs more detail or a more thorough description of the procedure in terms of how permits will be evaluated in order to ensure that "temporary" lighting doesn't become effectively "permanent". Season and location are important: a laser show in the baylands during spring or fall bird migration seasons, for example, could be disastrous.

(h)(4) Seasonal lighting during the period of October 15 through January 15 of each year

- **Question:** Is seasonal lighting subject to curfew? Why not set a curfew?
- **Comment:** An October 15 start to the "seasonal lighting" season seems very early and is well within the fall bird migration in Palo Alto.
- **Comment:** We have heard that setting a fixed range of calendar dates for this type of lighting that correspond to certain religious holidays might run afoul of the First Amendment's Establishment Clause.
- **Suggestion:** Disallow seasonal lighting during migration and nesting seasons. This provides a biological, rather than cultural basis:
  - Nesting season: Feb. 1 - August 31.
  - Spring Migration: March - mid June
  - Fall Migration: August - mid November.
  - **Remaining period when seasonal lighting is ok: Mid November - February 1st.**

(h)(6) Lighting for Airport Operations. Nothing in this section shall be interpreted to restrict, limit, or otherwise regulate lighting that, in the reasonable judgment of the Airport Manager, is prudent or necessary for airport operations, airport safety, or air navigation in connection with operations at the Palo Alto Municipal Airport.

- **Comment:** This section should just refer to lighting required by the FAA and not leave the decision up to "the reasonable judgment of the Airport Manager". The FAA rules are very prescriptive and ensure safe operations of airports.

July 30, 2024

Dear Kelly,

We have reviewed the proposed Bird Friendly Design ordinance (the version that was available to the ARB) and our comments are attached,

Please note that we are still looking into how other cities solved some of the issues that Palo Alto is struggling with

Thank you so much,

Santa Clara Valley Audubon Society and Sierra Club Comments on Bird Friendly Design (ARB version)

Please note that our advocacy focused on discouraging people from installing architectural elements that are hazardous to birds anywhere in the city. If someone wishes to install such a structure, they should ensure that it is visible to birds.

18.40.280 Bird Safe Design Standards (new section)

- **Comment:** Consider using “bird-friendly” instead of “bird safe”, and correct throughout the document.

(a) Purpose. The intent of this chapter/section is to establish bird-safe design standards to minimize hazards for birds and to reduce the potential for collisions.

(b) Definitions.

- **Suggestion:** Add a definition for “Glazing: All glass, including spandrel glass as well as Reflective and/or Transparent Non-Glass Materials, including but not limited to plexiglass and polished metal.

(1) “Bird Sensitive Area” means areas that are within 300 feet of waterways; within 300 feet of any open water larger than one acre; or within 300 feet of public and private parks and open space larger than one acre and dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, or wetlands.

- **Comment:** Why not use Palo Alto’s geography here?
  - **Suggestion:** In Palo Alto, areas East (Bayside) of Highway 101 and West (hillside) of Foothill Expressway should be specified as “Bird Sensitive Areas”
- **Comment:** Areas along creeks are especially sensitive...
  - **Suggestion:** Areas that are within 300 feet of natural waterways as measured from the Top of Bank or Dripline, whichever is greater (this applies primarily to Adobe and San Francisquito creeks)

- **Comment:** The 1 acre requirement for “public and private parks and open space larger than one acre and dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, or wetlands” makes no sense. We’d be ok with removing this (which will remove many homes from the requirements of this section) IF
  - our 2 suggestions in this section above are included, and
  - hazardous architectural elements city wide are required to implement bird friendly design (we’ll discuss later..

(2) “Bird-Safe Treatment” means permanent treatment to glass that provides visual cues to birds and reduces the likelihood of bird collisions.

- **Suggestion:** Add: Bird friendly treatments must include at least one or a combination of the following - exterior screens, grilles, shutters, or bird-friendly patterns that are visible to birds from the exterior of the structure.
- **Suggestion:** Add a definition: “Bird- friendly Pattern” - A pattern on glazing on exterior surface (Surface 1), intended to reduce bird collisions. The pattern must be visible to birds from the exterior of the structure and have lines, circular, or square markers or other patterns at least 0.25 inches in width or diameter, and spaced at most two inches apart.

(3) “Bird-friendly Material” means a material or assembly that has, or has been treated to have, a maximum threat factor of 25 in accordance with the American Bird Conservancy Bird Collision Deterrence Material Threat Factor Reference Standard, or with the American Bird Conservancy Bird-friendly Materials Evaluation Program at Carnegie Museum’s Avian Research Center test protocol, or with a relevant American Society for Testing and Materials (ASTM) standard.

- **Comment:** A threat factor of 25 is high. We should not go beyond 22.
- **Suggestion:** Exclude UV from any Bird Friendly material list. It simply does not work during low light hours, when birds are most active. Also, many species of birds f==do not see UV.

(4) “Bird Hazard Installations” mean monolithic glazing installations that provide a clear line of sight on the exterior of buildings, including, but not limited to, glass awnings, glass handrails and guards, glass wind break panels, or glass acoustic barriers.

- **Suggestion:** Replace with: “Bird Hazard Installations” mean glazing installations that provide a clear line of sight on the exterior of buildings and structures, including:

(A) “Fly-through Hazard” means one or more panels of glass that provide a clear line of sight through such elements creating the illusion of a void leading to the other side for a fly-through condition.

- **Suggestion:** Replace with:  
 (A) “Fly-through Hazard” means one or more panels of glass that provide a clear line of sight through such elements creating the illusion of a void leading to the other side for a structure.  
 Fly-through Hazard including, but not limited to:

- Glazed awnings,
- Glazed handrails and guards
- Gates
- Glazed windbreak panels, fences, acoustic barriers.
- Glazed weather shelters, including transportation and bus shelters

(B) “Fly-through Conditions” means open pathway for flight through and between site structures.

Flythrough conditions exist in the following two circumstances:

- When the distance between parallel glass is 17 feet or less.
  - Within 12 feet from a corner where there is convergence of two glass sides creating a perpendicular, acute, or obtuse corner.
- **Comment/suggestion:** 17 feet between parallel glass panes is not enough. San Jose uses 30ft or more.
  - **Suggestion:** “When a clear flight path to from one level to to another or to a skylight is visible from a window or an entryway”.

**Suggestion:** Add section C:

“High Risk structures” means architectural elements and structures that pose significant collision risks to birds wherever they are found, including but not limited to:

- Greenhouses,
- Skyways/skywalks,
- All floors of building connectors
- Glazing adjacent to courtyards or atria, open and enclosed
- Sliding doors
- Fenestration with more than 40% window-to-wall window to wall ratio on any facade
- Fenestration that extend longer than one facade level (more than 1 story)

(2) “Threat Factor” refers to the Material Threat Factor system developed by the American Bird Conservancy and a team of architects in 2010. Materials are assigned a score between 1 and 100 representing the level of risk the material poses in causing bird collisions, the lower the score, the lower the collision risk.

- **Comment:** This seems out of place? Is it needed at all?

(c) Applicability. All newly constructed buildings or properties being altered or renovated that require a separate planning approval shall comply with the bird-friendly building design elements and features set forth in this section.

- **Suggestion: Replace with** “All new construction including buildings and other structures, building additions, and/or building alterations and renovations that require a separate planning approval shall comply with the bird-friendly building design elements and features set forth in this section.

(d) Bird-Safe Treatments. At least one of the following Bird-Safe Treatments shall be incorporated into a building elevation according to Section 18.40.280(d):

(1) Fenestration and Glazing. Patterns that are etched, fritted, stenciled, silk-screened, or otherwise permanently incorporated into the transparent material shall be on an exterior glass surface.

- **Suggestion:** Replace with: (1) Fenestration and Glazing. Bird- friendly Pattern that is textured, etched, fritted, stenciled, silk-screened, or otherwise permanently incorporated into the glazing on an exterior glass surface.

(A) For patterns using dots or other isolated solid shapes, each dot or shape must be at least a 1/4 inch in diameter and be no more than 2 inches apart in any direction.

- (B) For patterns using If the pattern utilizes lines, they must be at least 1/4 inch in width and spaced no more than 2 inches apart.
  - **Suggestion:** Replace with: “(B) For patterns using vertical or horizontal lines, the lines must be at least 1/4 inch in width and spaced no more than 2 inches apart.

- (C) Frit, ceramic ink, or other marker types must be opaque and permanent.

(2) Exterior Features. Panes with exterior screens, shutters or shading devices installed permanently over windows, structures, or building features such that there is no gap larger than 9 inches in one dimension. Exterior features include, but are not limited to, metal screens, shutters, window grilles, fixed solar shading such as louvres, and exterior insert, brise soleil, or solar screens.

- **Suggestion:** Louvers do not work well without additional protection. Please consider removing?

(3) Threat Factor. A weighted average of all the Threat Factors of materials on a building elevation, including nonglass materials, must meet 15 or less.

- **Comment:** this must be per facade. I have seen terrible designs with a lot of glazing facing habitat but the building, overall, met the threat factor of 15.
- **Suggestion:** Please remove.

(e) Bird-Safe Treatment Location. All applicable **buildings** shall incorporate **one of the** Bird-Safe Treatments listed in Section 18.40.280(c) to conform to the following standards:

- **Suggestion:** Please remove the words “ one of the” (they can potentially use more than one)
- **Suggestion:** Please replace “buildings” with “buildings and structures”
- **Suggestion:** Consider a better word than “applicable”?
- **Question:** Does this apply to all non-single-home-residential, regardless of location, correct? If not - it should.

(1) No less than 90 percent of a building elevation between the existing grade and 40 feet above the existing grade shall incorporate one of bird-safe treatments listed in Section 18.40.280(c).

- **Question:** the word elevation appears several times. Do you mean facade? Does it need to be defined?
- **Comment/Suggestion:** Most cities in our area use 60-ft and Palo Alto should not weaken this standard. The reason is that we have tall trees and canopy (hence the name Palo Alto). Please use 60-ft.
- **Comment/Suggestion:** Green walls and green roofs are known to attract birds. Add:
  - ALL Glazing adjacent to any green roof or partial green roof, within 30-ft above and below the green roof shall incorporate one of bird-safe treatments listed in Section 18.40.280

(2) No less than 60 percent of a building elevation between 40 feet above the existing grade and top of the building height shall incorporate one of bird-safe treatments listed in Section 18.40.280

- **Question:** why 60%? Cupertino has no more than 5%.

(f) Alternative Compliance. Property owners or applicants may request an alternative compliance to requirements established in Sections 18.40.280(d) and 18.40.280(e), recommended in a report by a qualified biologist or ornithologist to meet the requirements and intent of this section. The qualified biologist or ornithologist shall have a degree in wildlife biology or specialization in ornithology and have experience in bird-safe building design. The alternative compliance shall be subject to Director approval.

(g) Bird-Safe Design Standards. All projects shall:

- **Question:** What is meant by Projects? Please define as buildings and structures?

(1) Use building materials with a reflectance level of 20 percent or below for all building façade and exterior when using reflective materials.

- **Comment:** This seems complicated. More research is needed.

(2) Bird Hazard Installations, including Fly-through Hazards and Conditions, and High Risk structures shall be constructed of Bird-friendly Materials regardless of their height above the existing grade.

- **Comment/Suggestion:** replace with “Bird Hazard Installations, including Fly-through Hazards and Conditions, and High Risk structures shall be constructed of Bird-friendly Materials regardless of their location and/or height above the existing grade.

(3) Lighting. All projects shall comply with the outdoor lighting requirements pursuant to Section 18.40.250 of the Municipal Code.

- **Comment/Suggestion:** Remove the word “outdoor”

(h) Exemptions. The following types of projects shall be exempt from Section 18.40.280(d): (

1) Any historic structure located within the City’s Historic Districts or listed on the City’s Historic Inventory or the State or National Historical Registers including new additions

(2) First floor retail storefronts up to 14 feet in height

(3) 100% affordable housing projects as defined in Section 18.32.030

(4) Single-family homes outside of the Bird Sensitive Area

- **Comment/Suggestion:** Single family homes should not be exempt from addressing Bird Hazard Installations. They have a choice, and can build lovely homes with no death traps for birds.

(i) California Building Code. All windows, doors, or other features must comply with the requirements of the California Building Code including the fire hazard severity zone regulations in California Green Buildings Standards Code (CALGreen). Should a conflict exist with the provisions of this section, the standards in the California Building Code shall prevail.