



# **Bird-Friendly Building Design: Policy Discussion**

## **PBZE Committee Meeting**

**Planning, Building & Development  
September 27, 2023**

# Timeline

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Research &  
Engagement with  
Local Experts  
PWPT Committee  
Discussion  
2020→2021

Public Act 103-0246  
Signed into Law  
June 30, 2023

Initiation of  
Regulatory Review  
Process  
*TBD*

Enabling Legislation  
Proposal Included in Lake  
County State Legislative  
Program  
2022

**PBZE Discussion &  
Finalization of  
Regulatory Approach**  
*Fall 2023*

# Agenda

- **Policy Options**
- **Cost Considerations**
- **Previous PWPT Policy Consensus**
- **Next Steps & PBZE Direction**

# Policy Options

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## Potential Applications

- **New Development**
  - Residential – subdivisions
  - Non-residential – commercial, industrial, multi-use
- **County Operations/Facilities (separate policy track)**

## Potential Criteria

- **How much glass is appropriate?**
- **What glass is affected?**
- **What glass or treatments should be used?**
- **Which types of buildings?**

# Terms Defined

**BIRD-FRIENDLY GLASS.** Has elements mounted outside glass that eliminate reflectivity, like secondary facades, netting, screens, shutters, or exterior shades; is opaque, etched, stained, frosted, or translucent glass; Ultraviolet (UV)-patterned so as to contain UV-reflective or contrasting patterns that are visible to birds; or includes patterns applied to or integral to glass on at least sixty percent of the exposed facade above 40 feet and in the first story above any podium which are composed of dots or other shapes no more than 2" apart at any point.

**THREAT FACTOR.** The degree of risk that a material poses to birds, per the American Bird Conservancy, as indicated by the percent of times in which birds will not avoid collision. ABC defines “bird-friendly” materials as having a Threat Factor  $\leq 30$ .

**PODIUM.** The projecting, horizontal base of a building, structure or story/part thereof located at or above established grade. A podium may be located above the first floor for purposes of this definition.



# Sample Policies

Locality	Application	Criteria	Target	Year
American Bird Conservancy Model Ordinance	New construction Renovations	Detailed	100% of glass First 100 feet	N/A
U.S. House	Federally-owned buildings	Detailed	90% bird-safe façade First 40 feet	2020, Bill Not Yet Signed
Cook County	New Construction Renovations	General policy	“shall incorporate bird-safe building materials and design features”	2008
Minnesota	Public Financing	Detailed	Avg. threat factor < 45 Critical threat factor < 15	2010
City of Chicago	Operations Special approval Public financing	Detailed standards	95% bird-safe façade First 36 feet	2019
Highland Park, IL	City Operations	General policy	“Include bird-safe design”	2020

# Non-residential Installation

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- Sold as a system
- Each window frame is assembled onsite according to custom/semi-custom specifications
- Adaptable, but involves more time and labor-cost





# Residential Installation

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- Sold as a finished assembly consisting of frame, glass, and decorative elements
- Inserted into the opening as a single unit
- High quality materials cost more, but cheaper installation
- Insurance may only pay for windows built to code at time of construction





# Treatment Cost Examples

			Integrated Window Options		After Treatment Options		Screens
	Avg. Glazing Area (ft <sup>2</sup> )	Standard Glass Windows	Silkscreen Printing of Ceramic Frit	Acid Etched Fritted Pattern	Feather Friendly	CollidEscape Tape	Avg. Insect Screen
Cost			\$10/ft <sup>2</sup>	\$12.50/ft <sup>2</sup>	\$3.50/ft <sup>2</sup>	\$2.25/ft <sup>2</sup>	\$55/residential screen
1 Bed	129	\$4,515	\$1,290 addl.	\$1,613 addl.	\$452 addl.	\$290 addl.	\$550 addl.
2 Bed	148	\$5,165	\$1,480 addl.	\$1,850 addl.	\$518 addl.	\$333 addl.	\$660 addl.
3 Bed	224	\$7,849	\$2,240 addl.	\$2,800 addl.	\$784 addl.	\$504 addl.	\$990 addl.
4 Bed	320	\$11,205	\$3,200 addl.	\$4,000 addl.	\$1,120 addl.	\$720 addl.	\$1,430 addl.

# Considerations

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- **Bird-friendly glass is a small, niche market (though growing)**
- **Bird-friendly glass is easier to use in non-residential frame systems**
- **Bird-friendly window assemblies for residential buildings are uncommon**
- **Many local residential installers have not worked with bird-friendly glass**
- **Short-term options require more maintenance & monitoring**
- **Requirements of recently adopted amendments to the building code**



# **PWPT/PBZE Policy Direction**

# Previous Committee Consensus

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**Topics: bird strikes and population decline; bird-friendly design; and regulatory issues**

## Committee Feedback



Conventional  
residential  
subdivisions

Conservation  
subdivisions

Non-residential  
buildings

Planned Unit  
Developments

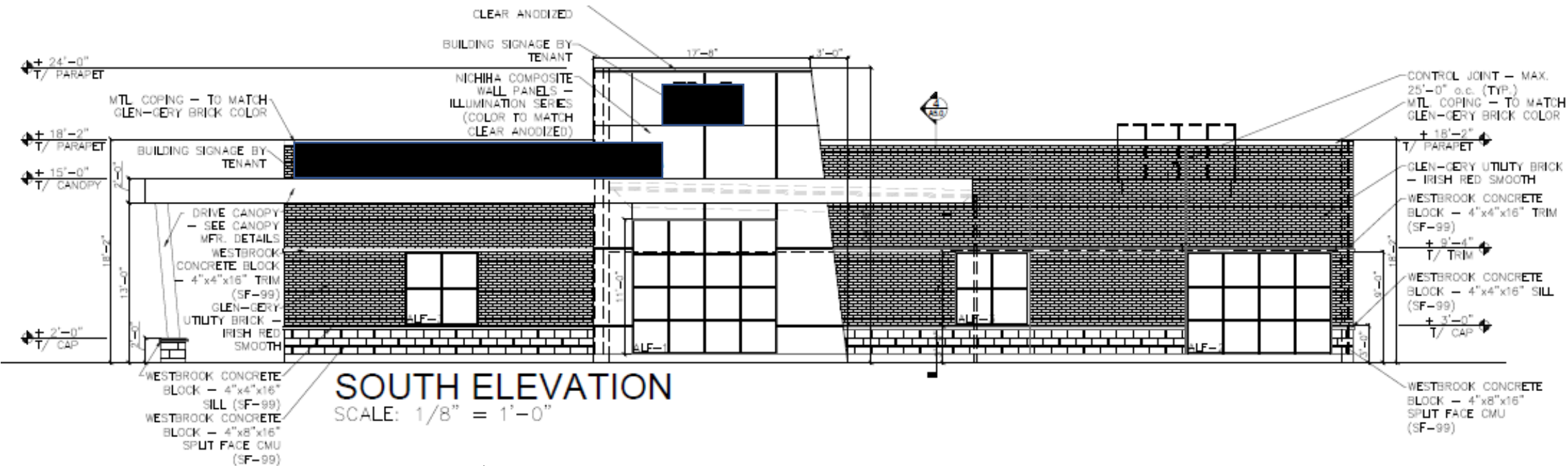
# Non-residential Standards

## Summary:

- Façade: 80% bird-friendly
- Threat Factor: < 30
- Accessory structures
- Interior landscaping

1. At least 80% of the exposed facade material from ground level to forty feet and the first story above any podium, including but not limited to a green roof or landscaped area, shall consist of:
  - a. materials other than glass, or
  - b. glass with a threat factor of thirty or less, or
  - c. glass that otherwise meets the definition of bird-friendly glass.
2. Accessory structures including free-standing glass walls, railings, windscreens, greenhouses, and other similar construction shall be built with exterior surfaces consisting entirely of materials with a threat factor of 15 or less.

# Non-residential Example



**Glazing Area:**  
**1124 sq. ft.**

**Façade Area:**  
**8320 sq. ft.**

**=**

**13.5% Glazing/Façade Ratio**  
**86.5% bird-friendly façade**  
**No treatment required**

# Residential Standards

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## Summary:

- Façade: 60% bird-friendly
- Threat Factor: < 30
- Excludes small cottages and manufactured homes.

Residential buildings with less than 1,800 square feet of living space:

1. Bird-friendly design requirements do not apply.

Residential buildings with more than 1,800 square feet must be designed and built in accordance with the following, at minimum:

1. At least 60% of the exposed facade material from ground level to forty feet and the first story above any podium, including but not limited to a green roof or landscaped area, shall consist of:
  - a. materials other than glass, or
  - b. glass with a threat factor of thirty or less, or
  - c. glass that otherwise meets the definition of bird-friendly glass.



# Residential Example

**Glazing Area: 458 sq. ft.**

**Façade Area: 3,204 sq. ft.**

**=**

**14% Glazing/Façade Ratio**

**86% *bird-friendly façade***

**No treatment required**



# Residential Example



*Ben Rose House, Highland Park, IL*

- Main house: 3 / 4 exterior walls are glass
- Pavilion: All 4 exterior walls are glass

If this residence was constructed under the new BFBD standards...



**Glazing Area: 2,243 sq. ft.**

**Façade Area: 3,204 sq. ft.**

**=**

**70% Glazing/Façade Ratio**

***30% bird-friendly façade***

**Treatment required**

# Planned Unit Development Standards

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## Summary:

- Façade: 80% bird-friendly
- Threat Factor: < 30
- Similar to non-residential standard
- Includes discretionary site selection for sensitive habitats

1. Buildings must be designed and built in accordance with the following, at minimum:
  - A. At least 80% of the exposed facade material from ground level to forty feet and the first story above any podium, including but not limited to a green roof or landscaped area, shall consist of:
    1. materials other than glass, or
    2. glass with a threat factor of thirty or less, or
    3. glass that otherwise meets the definition of bird-friendly glass.
  - B. Accessory structures including free-standing glass walls, railings, windscreens, greenhouses, and other similar construction must be built with exterior surfaces consisting entirely of materials with a threat factor of fifteen or less.
2. Building design and orientation in planned unit developments must incorporate consideration of nearby existing bird habitats, landscaped plantings, and known bird migration paths.

# Conservation Subdivision Standards

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## Summary:

- Façade: 60% bird-friendly
- Threat Factor: < 30
- Facades within 100 yards of habitat have to be 90% bird-friendly
- More restrictive than conventional residential

1. Buildings must be designed and built in accordance with the following, at minimum:
  - A. At least 60% of the exposed facade material from ground level to forty feet and the first story above any podium, including but not limited to a green roof or landscaped area, shall consist of:
    1. materials other than glass, or
    2. glass with a threat factor of thirty or less, or
    3. glass that otherwise meets the definition of bird-friendly glass.
  - B. Accessory structures including free-standing glass walls, railings, windscreens, greenhouses, and other similar construction must be built with exterior surfaces consisting entirely of materials with a threat score of fifteen or less.
2. Building design and orientation in planned unit developments must consider nearby existing bird habitats, landscaped plantings, and known bird migration paths.



# Lake County Facilities

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- **Lead by example with Lake County facilities and buildings**
- **Staff recommends:**
  - All new County facilities incorporate bird-friendly building design
  - High-impact existing County facilities be evaluated for possible retrofitting of bird-friendly design
- **Example language can be brought to committee with options**



# Next Steps

## Discussion

- Fall 2023
- Draft Ordinance Framework

## Review

- *Est. Date: TBD*
- Anticipated Review of Formatted Draft Ordinance

## Action

- *Est. Date: TBD*
- Committee and Board action on Bird Friendly Building Design Ordinance



# **Committee Discussion**