



SAN FRANCISCO
PLANNING
DEPARTMENT

DESIGN GUIDE

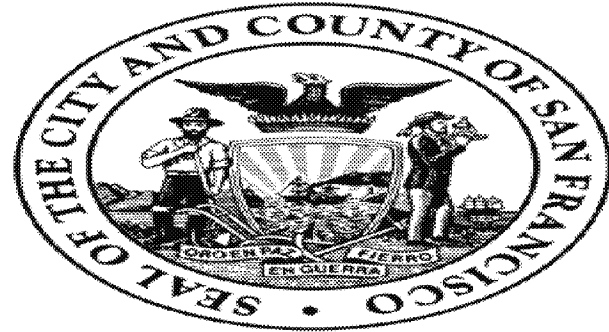
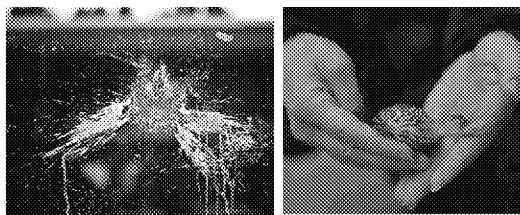
Standards for Bird-Safe Buildings

THE FACTS

Over 100 million bird deaths annually

Reflective, transparent materials cause hazardous collisions

Birds attempt to reach shelter, food and migratory paths reflected in glass



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THE CODE

Per San Francisco Planning Code Section 139, "Standards for Bird-Safe Buildings," there are two types of bird hazards:

Location-Related Hazards: Buildings within 300 feet of an Urban Bird Refuge.

Building Feature-Related Hazards: Uninterrupted glazed segments 24 square feet or larger.

THE TRIGGERS

New Buildings

Additions

Alterations - replacing 50% or more of glazing

See back for treatment options >

Resources

Standards for Bird-Safe Buildings document
sfplanning.org/index.aspx?page=2506

Golden Gate Audubon
goldengateaudubon.org

American Bird Conservancy
abcbirdtape.org

U.S Fish and Wildlife Service
fws.gov

LEED Pilot Credit #55 Bird Façade
usgbc.org

Bird-Safe Building Treatments

Location-related hazards require facade treatment. Buildings with feature-related hazards are also required to treat hazards.

Applied to 90% of glazing from grade up to 60 feet (Bird Collision Zone)

Applied to 100% of Building Feature-Related Hazard

2x4 Rule Required: Patterns smaller than 4" tall by 2" wide

Glazing Options

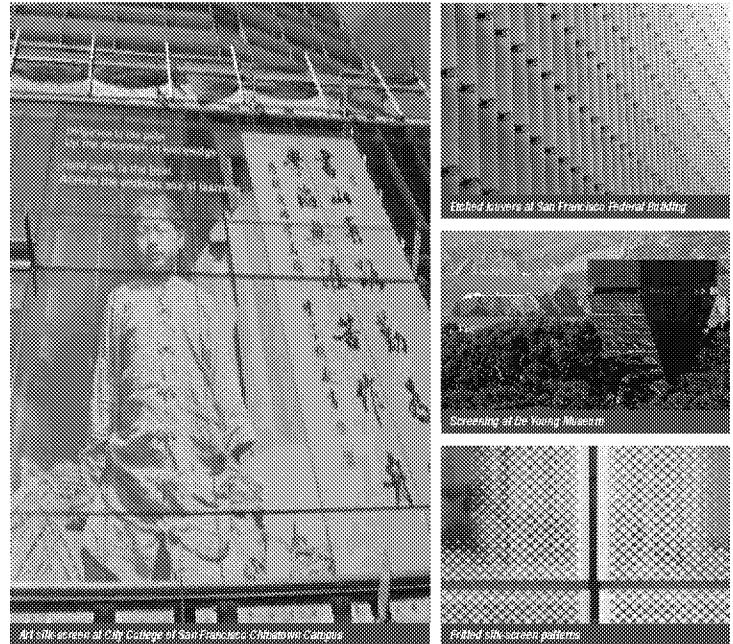
- ▶ Glass that reflects the ultraviolet light (which birds can see) such as 'Ornilux'
- ▶ Glass which has photovoltaic cells embedded such as 'IQ Glass', or 'Volltalux'
- ▶ Dichroic glass
- ▶ Fritted glass such as *Viracon Silk-screen*
- ▶ Etched Glass
- ▶ Translucent glass such as 'Profilit'
- ▶ Film

Building & Fenestration Strategies

- ▶ Layering and recessing glazed surfaces
- ▶ Louvers
- ▶ Overhangs and awnings
- ▶ Screening
- ▶ Netting
- ▶ Angled or faceted glazing - minimize reflectivity
- ▶ Opaque surfaces
- ▶ Structurally break-up large expanses of glass

Additional Precautions: Lighting & Wind Generators

- ▶ Avoid beacon effect and blind spots
- ▶ Minimal external lighting
- ▶ No uplighting
- ▶ Shielded lighting
- ▶ No event searchlights
- ▶ Wind Generators must appear solid



Comparison of Different Treatments

Treatment	Upkeep	Longevity	Application	Cost
NETTING	*****	****	**	\$
FILM	****	***	****	\$
FRITTED/ETCHED	*****	*****	***	\$\$\$
UV/PV	****	*****	***	\$\$\$\$
SCREENS	*****	****	**	\$\$
LOUVERS	*****	***	***	\$\$\$
5 STARS/\$ =	MINIMAL	DURABLE	EASY	PRICEY

Source: American Bird Conservancy; San Francisco Planning Department

Exceptions: Zoning Administrator Waivers

- ▶ **Bird collision zone treatment exempt for:** residential-zoned buildings less than 45 feet tall with limited glass facade (less than 50% glazing); building feature-related treatment still required.
- ▶ **More treatment required (95%) for:** residential-zoned buildings less than 45 feet tall with substantial glass facade (more than 50% glazing).
- ▶ May waive or modify requirements per recommendation of qualified biologist.