



July 8, 2022

Ms. Amy Chen
Community Development Director
City of East Palo Alto
Via email to: achen@cityofepa.org

Re: Ravenswood Business District/4 Corners Specific Plan Update

Dear Ms. Chen,

At the invitation of Raimi and Associates, the Sierra Club Loma Prieta Chapter, Bay Alive, Citizens Committee to Complete the Refuge, Green Foothills, Sequoia Audubon Society and Santa Clara Valley Audubon Society have compiled the following recommended standards and design guidelines for your consideration as you develop the policy framework for the Ravenswood Business District/4 Corners Specific Plan Update (RBD Update). Due to the RBD's proximity to San Francisco Bay, new development in the plan area raises significant concerns about safety from climate-driven floods and impacts on Bay ecosystems. The RBD Update creates an opportunity for the City to establish standards for development that address both those concerns while also accommodating significant growth for the city. These guidelines and standards are needed to:

1. allow sufficient space for flood protection infrastructure to protect the community without encroachment into the Bay,
2. preserve biodiversity, ecosystem services and natural flood resilience provided by existing habitat areas and minimize impacts on wildlife, and
3. ensure that the East Palo Alto community's access to open space is protected.

In order to update and improve the existing Specific Plan, please consider our suggestions below.

A. SEA LEVEL RISE PROTECTION AND HABITAT OVERLAY ZONE

The Specific Plan area along San Francisco Bay is bounded by habitat-rich preserves of healthy wetlands supporting essential ecology and abundant wildlife, including endangered species. The climate-driven impacts of sea level rise threaten this vital ecosystem as well as the East Palo Alto community. Through use of a Sea Level Rise Protection and Habitat Overlay Zone with a significant building setback, East Palo Alto can protect its community from flood risks while simultaneously reaping the ecological, recreational, and climate benefits of resilient, healthy wetlands.

The Sea Level Rise Protection and Habitat Overlay Zone should prohibit any new buildings or other structures, including surface parking, within the Overlay Zone to ensure sufficient land area is available for flood protection levee designs that can be expanded over time as needed without wetlands encroachment. In addition, the setback should provide a sufficiently wide terrestrial buffer (a gently sloping strip of land that buffers the transition from upland to aquatic habitats) to maintain the quality and function of the wetlands and support existing wildlife and wetland biodiversity.

Please establish a Sea Level Rise Protection and Habitat Overlay Zone prohibiting new buildings or other structures, including surface parking, within 330 feet of the wetland edge (including from privately owned wetlands).

Sections a and b, below, describe the minimum setbacks needed to accommodate a sustainable flood control levee and to provide sufficient terrestrial buffers for a range of wetlands benefits, respectively. The Overlay Zone is intended to serve both those functions.

a. Sea Level Rise Flood Protection

A minimum of 100 feet is preferred to provide sufficient distance from the wetland edge for both the new levee structure and for future increases in levee height.

The original Ravenswood/Four Corners TOD Specific Plan states in Policy LU-9.4¹:

“Rights-of-way for levees or other structures protecting inland areas from tidal flooding should be sufficiently wide on the upland side to allow for future levee widening to support additional levee height so that no fill for levee widening is placed in the Bay.”

The above policy - that inboard setback must allow for future levee height changes that will not encroach into the Bay - implies that the still-in-planning, new SAFER levee should also not encroach into the Bay.

¹ Ravenswood/4 Corners TOD Specific Plan, page 73.
https://www.cityofepa.org/sites/default/files/fileattachments/community_amp_economic_development/page/2811/final_spec_plan_feb_2013.pdf

The San Francisquito Creek Joint Powers Authority’s preferred levee structure for this shoreline is a 3:1 sloped structure with an approximately 100-foot wide footprint.² Burlingame’s sea level rise ordinance³, approved in 2021, establishes a 100-foot setback with the levee located at the farthest distance from the bay edge, in order to allow space for a gentle sloped face towards the bay, and allowing for the levee to be raised over time.

b. Healthy Wetlands Habitat and Ecosystem Services

According to the San Francisco Estuary Institute (SFEI), “healthy wetlands require terrestrial buffers (i.e., strips of land that buffer the transition from upland to aquatic habitats)” for maintaining the quality of the wetland, supporting the life cycle of wetland species, and supporting higher levels of biodiversity.⁴ In a recent urban ecology report for the City of Sunnyvale, SFEI recommended the following building setbacks for a range of wetlands benefits.

- A minimum terrestrial buffer of 100 feet is needed for nutrient and pollutant removal functions.⁵
- A minimum terrestrial buffer of 330 feet is recommended to maintain wetland water quality and provide functional habitat.⁶
- For more comprehensive support for wildlife and plants, 650 feet is recommended⁷

We recognize that depending on design, a flood control levee may not always contribute to the terrestrial buffer functions described above. As such, a 330-foot overlay width will

² The SFCJPA has published the [Notice of Preparation](#) for the SAFER Bay Project.

³ Public Access, Flood and Sea Level Rise Performance Guidelines, Burlingame Municipal Code Title 25, sec. 25.12.050

https://cms6.revize.com/revize/burlingamecity/document_center/Planning/25.12.050%20-%20Adopted.pdf

⁴ [Urban Ecology Technical Study, Moffett Park Specific Plan 2020](#), page 20.

⁵ In a review of more than 100 papers, most buffers that demonstrated significant removal of nutrients were >30 m (~100 feet) in width (Hickey and Doran 2004), [Urban Ecology Technical Study, Moffett Park Specific Plan 2020](#), page 20n4.

⁶ The Environmental Law Institute (2003) recommends a 100 m (~330 foot) width based on the synthesis of 156 studies of riparian and wetland terrestrial buffers. [Urban Ecology Technical Study, Moffett Park Specific Plan 2020](#), page 20n5.

⁷ In general, the wider a terrestrial buffer is, the more ecological function it will support. No specific standard minimum width exists for fully capturing ecological function and conserving biodiversity, however, a 200 m (~650 foot) buffer has the potential to additionally capture: (i) the minimum core habitat requirements for amphibian and reptilian species (65 species; Semlitsch and Bodie 2003); (ii) habitat needs for space-restricted birds (Stauffer and Best 1980); (iii) support local avian species richness (widths of 250 feet to 575 feet were needed to support 90% of bird species; Spackman and Hughes 1995), [Urban Ecology Technical Study, Moffett Park Specific Plan 2020](#), page 20n6.

assure minimum wetlands eco-services in most areas, while supporting additional water quality and habitat function in others.

c. Overlay Zone Design Guidelines

- Landscape design Trees should not be planted along the Bay Trail or wetland edge. Trees located where they may provide perching for avian predators with line-of-sight to the baylands should have rounded canopies to reduce predation.
- Lighting Limiting interior and exterior lighting within 300 feet of the bay edge is critical for habitat protection. The lighting design standards delineated in section B(c), below, are especially important within the Overlay Zone.
- Retention ponds The Overlay Zone's building setback creates a valuable opportunity to expand East Palo Alto's stormwater management system. Encourage bioswales and flood retention ponds, where feasible, to benefit flood resilience, water quality and habitat.

B. DESIGN STANDARDS FOR BEYOND THE OVERLAY ZONE

a. Building and Stormwater Design Standards

- Minimum finish floor elevations New buildings or additions to buildings should be constructed to meet minimum finish floor elevations consistent with the Ocean Protection Council's most current sea level rise projections and planning guidance.

Water levels in San Francisco Bay have risen over eight inches since the early twentieth century and, because of the effects of climate change, are predicted to continue rising at a much faster rate. The City will become increasingly vulnerable to inundation during both normal high tides and major storm events. For projects with expected lifetimes beyond 2050, the State Ocean Protection Council's 2018 guidance recommends planning for a minimum of 2.4 to 3.4 feet of sea level rise (low risk aversion) to as much as 10.2 feet (extreme risk aversion).⁸

- Predation Threatened and endangered wetland species are greatly at risk from predation by raptors and other birds of prey. Building facades, rooftops, and lighting structures within line of sight with the wetlands should be designed to prevent perching by avian predators.
- Impervious surface Impervious surface area should be minimized. In general, parking lots should include trees to provide urban canopy. Provide a treewell

⁸ State of California Sea Level Rise Guidance, 2018 Update, page 25. Ocean Protection Council website: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

after every five spaces to get a consistent amount of tree cover for urban cooling and to avoid heat island effect.

- Bioswales Bioswales should be constructed for any new or reconstructed impervious surface to treat runoff before it enters the stormwater system.
- Landscape design 80% of all vegetation should comprise native species that provide valuable resources for native wildlife and pollinators.
- We recommend the city develop design standards for the RBD Plan Area to retrofit existing streets to green streets. The San Mateo Countywide Water Pollution Prevention Program provides useful guidelines for achieving this.⁹

b. Shading, View Corridors, and Wind

Tall buildings should minimize shadows on the wetlands¹⁰ and on private land, streets, open spaces, and residential units. Sunlight (in terms of both quantity and quality of solar radiation) is needed for plant species to conduct photosynthesis, propagate, and survive. Shadowing can affect photosynthesis, aquatic insect production, fish productivity and wildlife behavior.

In addition, buildings should be spaced so as to maintain and enhance view corridors to the Bay and existing wetlands and minimize the creation of surface winds near the base of the building.

- Stepped back building heights To minimize shading of Bay habitat, the first 100 feet of building beyond the Overlay Zone boundary should be no taller than 4 stories. This guideline applies to both residential and non-residential development.
- View corridors Buildings should be spaced so as to maintain and enhance view corridors to the Bay and existing wetlands.

⁹ Green Infrastructure Design Guide, Second Edition 2020 <https://www.flowstobay.org/wp-content/uploads/2020/03/GIDG-2nd-Edition-2020-03kh-RED.pdf>

¹⁰ Studies have shown the importance of sunlight to estuarine ecosystems and that shadowing from bridges and docks can negatively affect plant growth and invertebrate density in estuarine ecosystems. (Broome et al. 2005 Effects of Shading from Bridges on Estuarine Ecosystems. CTE/NCDOT Joint Environmental Research Program Final Report <https://connect.ncdot.gov/projects/research/RNAProjDocs/2001-12FinalReport.pdf>) and docks (Logan et al. 2017 Effects of Docks on Salt Marsh Vegetation: An Evaluation of Ecological Impacts and the Efficacy of Current Design Standards <https://www.mass.gov/doc/effects-of-docks-on-salt-marsh-vegetation-an-evaluation-of-ecological-impacts-and-the-efficacy/download>) can negatively affect plant growth and invertebrate density in estuarine ecosystems. By extension, tall buildings along East Palo Alto's treeless marsh plain that thrives in open sunlight are likely to introduce even broader shadow impacts.

- Shading Shadow studies should be provided for all 5 story and taller buildings such as 3D massing models, digital simulations, or other methods that evaluate both building shadows and impacts to views of the Bay.
- Wind Surface wind caused by tunneling between tall buildings should also be studied to minimize tunneling effects and the creation of surface winds near the base of buildings, especially near the Bay.

c. Indoor and Outdoor Lighting

Standards and guidelines should minimize energy use, provide sufficient but not excessive lighting for pedestrian safety, minimize light trespass, reduce light pollution, and protect the surrounding natural environment from lighting impacts.

The current Ravenswood Business District Specific Plan requires shielded lights and prevents up-lighting. The City should add the following standards:

- Outdoor lighting should be relatively dim and kept to a Correlated Color Temperature (CCT) of 2700 Kelvin or less. Outdoor lighting within 300 feet of the baylands CCT should not exceed 2400 Kelvin.
- All outdoor lighting fixtures shall be angled downwards, be fully shielded and dimmable. No light trespass shall be allowed into adjacent properties, and no light shall be allowed to be angled towards the Bay or other natural areas.
- Ornamental lighting should not be permitted within 300 feet of the baylands.
- Timers, dimmers, and shades should be used in commercial buildings to ensure that lights are turned off when buildings are not in use and light is not visible from the Bay. Non-essential lights should be turned off at 10pm.

d. Bird Safety

East Palo Alto's Bird-Safe Building Standards are included in the "Standards for new development and renovations in Ravenswood/4 Corners"¹¹. We ask for a few additions to the standards and requirements:

- Applicability We ask for Applicability to be expanded to include all commercial and mixed-use development in the District. In addition, for residential, bird-safe design requirements should apply to developments within 300 feet from riparian habitats, wetlands, and open space.

¹¹ Appendix B Additional Development Standards in https://www.cityofepa.org/sites/default/files/fileattachments/community_amp_economic_development/page/2811/final_spec_plan_feb_2013.pdf

- Hazardous elements Please add the following standard (as required in Mountain View's North Bayshore Precise Plan¹²):

"Skyways, walkways, or glass walls. New construction and building additions shall avoid building glass skyways or walkways, freestanding glass walls, and transparent building corners. New construction and building additions should reduce glass at tops of buildings, especially when incorporating a green roof into the design.

- Bird-Safe Glazing Treatments Please add the following standard:

Bird-friendly glazing treatments will achieve a threat factor of 20 or less, as rated by the American Bird Conservancy product database.¹³

3. OPEN SPACE GUIDELINES

a. Limit Human Incursion in Wetlands

Except for the Bay Trail, additional public access to Bay wetland areas, including private wetlands, should be avoided in order to preserve habitats.

b. Privately-Owned Publicly Accessible Open Space (POPA)

- All privately-owned publicly accessible (POPA) open space in the RBDSP should be made permanently accessible to the public through legally enforceable mechanisms such as easements or public access agreements with the city.
- Space that is identified in the RBDSP or in individual development proposals as public open space -POPA- shall be clearly identified via signage in multiple languages.
- Trails and pathways shall be open to the public at all times.
- Recreational facilities shall be open to the public during all hours when comparable city-owned facilities are open.
- Any recreational facilities that are subject to being reserved for private use shall be reservable through the same channels (website, phone, etc.) as comparable city-owned recreational facilities, and shall not be subject to any preferential treatment for RBDSP landowners, tenants, or their employees.

¹² <https://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=29702>

¹³ The American Bird Conservancy rates Bird Safety solutions and provides the rating in their product database
<https://abcbirds.org/glass-collisions/products-database/>

Thank you for your attention to these recommendations.

Sincerely,

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Sierra Club Loma Prieta Chapter

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cc:

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