



September 12, 2022

Catherine Keylon, Senior Planner
City of Burlingame
Planning Division 501 Primrose Road
Burlingame, CA 94010
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Dear Ms. Keylon,

The Sierra Club Loma Prieta Chapter respectfully submits the following comments regarding the Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) for the 1200-1340 Bayshore Highway Peninsula Crossing ("Project") in Burlingame, California.

Our organization has a deep interest in the San Francisco Bay and its ecosystems, as well as areas near the Bay where development may impact natural resources and climate resilience in the region. Please see our full scoping comments below.

Project Description

The project description in the NOP document is inadequate in that it includes no information on the design or alignment of flood infrastructure in this very high risk area nor how it will be coordinated with One Shoreline or property owners and communities that will depend on this levee system for flood protection.

Alternatives

- Please include and analyze an environmental alternative that incorporates a 100 foot setback of the development from the Bay, creek, and marshland edge in order to provide space for the protection and migration of ecosystems and wildlife and allow space for potential future flood protection needs.
- Please consider an alternative building design that increases the wall to glazing ratio. The expansive glazed area shown in renderings may become hazardous to birds, create glare, reflect sunlight and heat towards the Bay, emit light at night, and impair energy efficiency. Please analyze an alternate facade that has no more than 40% exposed glazing,¹ especially for the facades that are visible from towards the Bay, waterways and wetlands.

¹ 2019 California Energy Code, Title 24, part 6, Section 140.3(a)5Aii
<https://codes.iccsafe.org/content/CEC2019P2/subchapter-5-nonresidential-high-rise-residential-and-hotel-motel-occupancies-performance-and-prescriptive-compliance-approaches-for-achieving-energy-efficiency>

Cumulative Impacts

Please include the following Burlingame projects in the cumulative analysis of all environmental impacts: 620 Airport, 777 Airport, and 1669-1699 Bayshore Highway. The One Shoreline Project both north and south of the project and the San Francisco International Airport levee project should also be included in the cumulative analysis for potential biological impacts from increasing access and attracting more recreational users.

Of significant concern is the lack of information in the NOP about proposed flood protection infrastructure and how it will be coordinated and integrated with flood infrastructure on adjoining parcels as well as the One Shoreline Project.² Please evaluate the cumulative impacts of the disparate flood protection strategies employed across the major projects identified above, including stormwater runoff from elevated sites.



OneShoreline - Millbrae Burlingame Shoreline Protection Project

ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION CATEGORIES

AESTHETICS

Aesthetics should be included in the DEIR scope of analysis, including modeled building heights and height stepbacks. The DEIR should carefully identify scenic resources, including open views of the Bay and foothills in the East Bay, sunrise over the Bay, and baylands that may be affected, and should identify those resources that are likely to be

See also, "Bird Safety" section below and [ASHRAE 90.1](#) prescribing maximum glazing ratios

² San Mateo County Flood and Sea Level Rise Resiliency District, One Shoreline Millbrae and Burlingame Shoreline Area Protection and Enhancement Project https://onshoreline.org/wp-content/uploads/2022/01/OneShoreline-RFP-for-Millbrae-Burlingame-Shoreline_Final.pdf

impacted by the anticipated development program. Specific standards should be identified to preserve community viewsheds and avoid or minimize potential impacts of tall buildings, such as shadowing from buildings, light at night, glare from morning sun reflected onto the Bay from glazing, and wind tunnel effects around tall buildings.

The extremely large floor plates are inconsistent with surrounding buildings. Analyze the need for articulation of the facades to minimize massing.

Analyze the need to mitigate the massive parking garage facades with treatment such as using Living Green Walls and/or design features that avoid distracting from the shoreline aesthetics. Ensure that garage interior and exterior lighting follows the Light Pollution section below in Biological Resources.

AIR QUALITY/GREENHOUSE GAS EMISSIONS

A detailed study of the impact of construction is needed. Construction activities and construction equipment will have an ongoing impact on air quality, emissions, noise and vibration, including the use of heavy equipment, construction related traffic, etc. Please analyze and mitigate both construction and operational impacts to air quality and greenhouse gas emissions, including from proposed off-site improvements, across all phases of construction.

Traffic and transportation is a major source of greenhouse gas emissions. Please analyze and mitigate impacts from the proposed net increase of between 4,088 and 5,226 new commuters.

BIOLOGICAL RESOURCES

Impacts of Concern

For all impacts on wildlife and habitats the highest and best mitigation is a significant buffering of habitat from construction, development and human activity. This project spans a shoreline that includes two waterways, a creek and a rare, remnant tidal slough in a wetland, in addition to a significant span on the Bay's natural edge. These should be recognized as important biological resources.

Encroachment and Disturbance

The DEIR needs to analyze the biological impacts of human presence in regards to noise, litter, encroachment into wildlife habitats, pets, trash from food trucks, use of helium balloons and similar activities. Please analyze the impacts of project elements such as walkways and bridges over sensitive wetland areas along Easton Creek, the no-name slough wetlands, and the Bay shoreline. Please consider shading, lighting, noise, predators and the increase of human activity and disturbance in the natural communities of jurisdictional wetlands.

1. Evaluate and mitigate the potential impacts of increased human traffic using outdoor recreation infrastructure like trails. Studies have shown that wildlife retreat

when humans move along trails³ and that waterfowl are particularly intolerant of recreational trail use.⁴ Consider reducing bike traffic along trails by providing a safe bike lane for commuter traffic on Old Bayshore Highway.

2. Evaluate and mitigate impacts of noise on wildlife during construction and operations, including noise arising from events or large gatherings along the shoreline or amidst developed shoreline projects.
3. Evaluate and mitigate impacts of human intrusion into wetland habitats.
4. Evaluate and mitigate impacts of people walking their dogs off-leash particularly adjoining shoreline wetland habitats. Enforcement is challenging but some methods can be more effective than others, as discussed by Mountain View's Senior Biologist Phil Higgins in a Palo Alto webinar in November, 2021.⁵
5. Seek an informal consultation with the San Francisco Bay Regional Water Quality Control Board and the California Fish & Wildlife Service to identify potential impacts to Easton Creek and the no-name slough/marsh, particularly in regards to proposed boardwalk impacts and also avoidance of impacts to the Bay beach and mudflats.

Predation and Nuisance Species

Increased human presence and tall structures can increase the presence of predators along the shoreline. Analysis must identify and mitigate to minimize depredation of migratory and nesting birds and other sensitive species. Nuisance predator species include racoons, opossums, skunks, foxes, rats, gulls, crows and roaming cats. Depredation is of major concern for the endangered species that live in the shoreline marshes. To minimize and mitigate the attraction to predators and other nuisance predator species, the following will help:

1. Prohibit feeding of animals outdoors, and provide a program to show how this requirement will be enforced during operations of the project,
2. Ensure that all trash containers are inaccessible to wildlife,
3. Design all architectural elements and structures that are visible from the Bay or wetlands (including bridges, lighting structures) to discourage perching by raptors, and
4. To reduce access for avian predators, do not plant trees along or near the shoreline and wetlands.

Disruption of Existing Wetlands and Shoreline Beach

Wetlands are uniquely sensitive to impacts from actions on surrounding lands and necessarily are subject to the Clean Water Act as well as wildlife and habitat statute

³ Trulio, L. A., & Sokale, J. (2008). Foraging Shorebird Response to Trail Use around San Francisco Bay. *The Journal of Wildlife Management*, 72(8), 1775–1780.

<http://www.jstor.org/stable/40208460>

⁴ Lynne A. Trulio and Heather R. White "Wintering Waterfowl Avoidance and Tolerance of Recreational Trail Use," *Waterbirds* 40(3), 252-262, (1 September 2017).

<https://doi.org/10.1675/063.040.0306>

⁵ Phil Higgins, Balancing Public Access and Habitat Enhancement in the Baylands, 11/16/21, webinar @ ~1:50:02; <https://www.sfestuary.org/truw-pahlp/>

protections regardless of land ownership and location of the BCDC band. As such, actions such as construction or landscape management along the shoreline must be carefully monitored and mitigated even if equipment or workers never touch the marsh. Dust and seeds of invasive species can travel on even slight breezes. Oil spills or other contaminants may travel to sensitive habitats within the project area.

Both temporary and permanent impacts to these wetlands must be evaluated and avoided, including impacts resulting from construction activities such as grading, installation of subsurface infrastructure and placing of fill to raise the height of buildings, or installation of flood barriers such as an anticipated levee system. In addition,

1. Construction and landscaping practices should evaluate and mitigate impacts of work like construction (temporary impact) and landscaping (temporary and repetitive) on sensitive wetlands by setting standards and monitoring compliance for all such actions.
 - a. Place dirt piles away from the shoreline and cover with tarps when not in use.
 - b. To avoid import of invasive plant species, tires should be washed off site or at site entrance (for all vehicles used on the site) with water captured to not spread on site.
 - c. If pile driving is necessary, use methods that minimize noise and are confined to limited periods of time.
 - d. Do not permit night-time construction activities along the shoreline in order to avoid impacts on night-active species in the marshes. For any exceptions to night-time construction activities, require that all needed lighting be shielded and directed downward and away from sensitive habitats.
 - e. Landscapers should not use blowers near the wetlands because the practice sends seeds, dust, and other contaminants into the wetlands. Blower noise would also disrupt the quiet of the shoreline environment for people and wildlife.
 - f. The DEIR should establish development standards that ensure adequate “rights-of-way” for levees and be sufficiently wide on the upland side to allow for future levee widening in order to support additional levee height and ensure that no fill for levee construction or widening is placed in the Bay.

Bird Safety

Human infrastructure threatens communities and ecosystems with significant impacts. Collisions with buildings alone kill nearly 1 billion birds per year, highlighting the necessity for bird-safe design to protect local and migratory bird populations. The DEIR needs to analyze any potential impacts of the project’s design on bird populations, such as the likelihood of bird-strikes. Consider the following mitigation measures:

1. Bird-safe design should be required for all structures within 300-ft from riparian habitats, wetlands and open space, and

2. Bird safety treatments should accomplish a threat factor of 20 or less, as provided in the Product and Solutions Database of the American Bird Conservancy.⁶

Light Pollution

Artificial light at night causes significant impacts. Light disrupts the circadian rhythm of living beings, which can detrimentally impact mating, foraging, and migration behaviors, sometimes with lethal results. Light pollution has also been correlated with increased health risks and hormone disruption in humans. To mitigate these impacts, we recommend that the impacts of light pollution be studied and that the following standards be established.

1. Require shielded lights and prohibit up-lighting.
2. All lighting shall have a correlated color temperature of 2700 Kelvin or less.
3. All lighting shall be angled downwards and facing away from glazed facades, the Bay and other habitat areas.
4. Timers, dimmers, shades, and occupancy sensors should be used in commercial buildings to ensure that lights are turned off when buildings are not in use. Non-essential lights should be turned off at 10pm. Do not light habitat or the Bay Trail.
5. Do not have minimum lighting requirements.
6. Construction lighting should not be exempted from outdoor lighting standards.
7. At structured parking garages, all lighting shall be on occupancy sensors and no light should spill outside the building towards the Bay or Bay Trail or the wetlands.

As a point of reference, the City of Cupertino's recently enacted dark skies ordinance may be informative.⁷

Shading

Analyze and mitigate daylight attenuation impacts on the health and survival of the bayland, creek, and slough ecosystems due to shadowing by tall adjacent buildings. Studies have shown the importance of sunlight⁸ to estuarine ecosystems and that shadowing from bridges⁹ and docks¹⁰ can negatively affect plant growth and invertebrate density in estuarine ecosystems. By extension, tall buildings along Burlingame's treeless marsh, that thrives in open sunlight, are likely to introduce even broader shadow impacts.

⁶ <https://abcbirds.org/glass-collisions/products-database/>

⁷ City of Cupertino Bird Safe and Dark Sky ordinance, requirements, and standards <https://www.cupertino.org/our-city/departments/community-development/planning/non-residential-mixed-use-development/bird-safe-and-dark-sky>

⁸ Thom et al. 2008 Light Requirements for Growth and Survival of Eelgrass *Zostera marina* L in Pacific Northwest USA Estuaries https://www.researchgate.net/publication/226247644_Light_Requirements_for_Growth_and_Survival_of_Eelgrass_Zostera_marina_L_in_Pacific_Northwest_USA_Estuaries

⁹ 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>

¹⁰ 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>

Please include shadow studies to analyze shading impacts on the baylands, creek, and slough/marsh from buildings. Mitigations should include setback standards and also stepped-back heights for building design as well as avoidance of recreation or other features that extend over bayland habitat.

Glare and lightcast

Analyze and mitigate glare from glazing and night light cast from windows with building design guidelines that avoid both impacts on surrounding natural communities especially marsh wetlands.

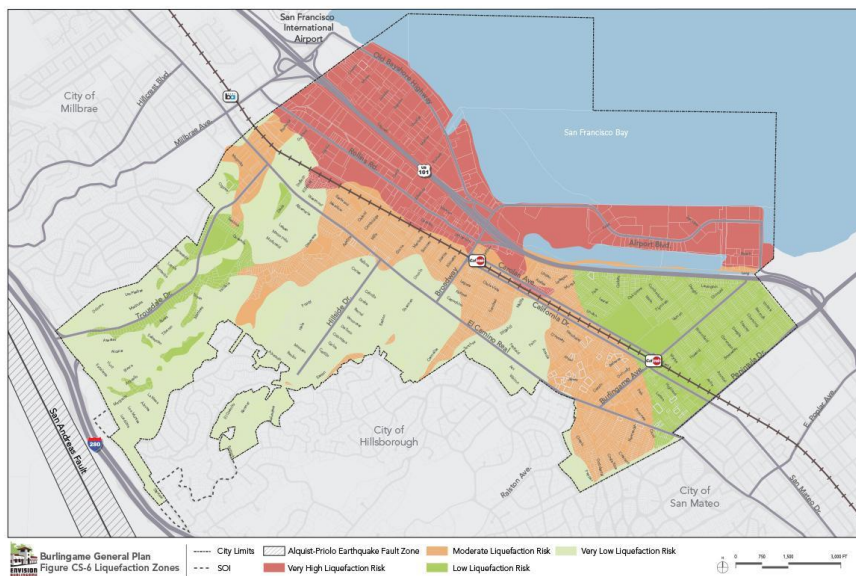
Pesticides and rodenticides

Analyze and mitigate both pesticides and rodenticides with avoidance practices because each is known to kill desired species, directly or indirectly. Pesticides used along the often windy shoreline can both impact habitat and become a water contaminant.

GEOLOGY AND SOILS

The DEIR needs to provide a thorough analysis of all aspects of geologic risks of the project site and proposed plans.

As this figure from “Envision Burlingame” demonstrates, seismic liquefaction is a “very high” risk for the project site. Its impacts are manifold although commonly only considered in regards to new building construction. Evaluation must also consider all liquefaction threats, including but not limited to (1) the Bay’s edge (collapse of Bay facing soft- or hardscape walls), (2) pedestrian and vehicle access (collapse/distort roads, driveways, loading docks, surface parking, trails and open public spaces), (3) buried infrastructure (crack or otherwise damage sewer and water pipes; electrical, internet or other conduits), and (4) slump or collapse of earthen platforms (installed for FEMA standards). A seismic liquefaction event can cut all function or operation of the site and create barriers that interfere with emergency access/egress.



Liquefaction zones - from “Envision Burlingame”

HAZARDS AND HAZARDOUS MATERIALS

The DEIR should evaluate the cumulative impacts of hazardous waste sites within the project area.

1. Due to contamination of the project area by past land uses, including a gas station, it is critical that the DEIR evaluate the risk of soil and groundwater disturbance related to this project. The DEIR should address the following topics related to hazardous chemicals within the project area:
 - a. **Changes to groundwater flow directions or rates due to pumping for borehole drilling and dewatering of building foundations**
Consolidation of soils by dewatering and placement of building foundations will create a subsurface barrier, shifting groundwater flow,
 - b. **Transport of contaminated soils as dust to nearby sensitive or vulnerable populations and wetlands, and**
 - c. **The potential for subsurface utilities such as sewers or electrical lines to act as conduits for transport of hazardous soil vapors into buildings.**
2. Investigate the transport of hazardous substances from the project area to estuarine sediments and waters.

BioScience projects may bring heightened safety risks due to sea level rise and associated groundwater rise.

Please evaluate and mitigate potential safety risks related to an expansion of life science/lab facilities in the plan area, including clear delineation of impacts related to specific biosafety levels. In an urbanized setting, the biological materials being studied, if allowed to escape, could become a regional health hazard to humans and natural ecosystems. Furthermore, siting of such facilities in shoreline areas, identified as flood zones, can create vulnerabilities for the Bay ecology as sea levels rise and 100 year flood events occur with increased frequency; placement in areas where soil liquefaction in seismic events could lead to structural failure also pose heightened biosafety hazards. Please consider the Sierra Club Loma Prieta Chapter's [biosafety hazard guidelines](#) to inform an appropriate mitigation strategy.

Hazards Unique To Biotechnology Labs

Technical offices, labs and research facilities have unique characteristics that are very different from typical commercial uses.¹¹ For public safety, many cities confine laboratories or research facilities to industrial zones and some prohibit them within 250-foot of residential developments, a public use facility such as a hotel or publicly-owned open space.

¹¹ [National Center for Biotechnology Information: Handling and Management of Chemical Hazards](#)

Please evaluate impacts on neighboring properties from these specialized facilities, including:

- Twenty-four-hour on-site activity (all night light pollution or noise from HVAC),
- Rooftop mechanical equipment which adds significant building height casting greater shadows and blocking of sunlight, and
- Noise and chemical odors generated from extensive exhaust systems.

These impacts can be particularly harmful to public open space such as the Bay Trail and normal commercial offices or hotels. Potential mitigations could include the following:

- The majority of the mechanical equipment is either below-grade in the garage levels or enclosed in a 'penthouse', which has insulated walls with concrete exterior panels and an insulated concrete roof slab to keep mechanical sounds from escaping,
- Cooling towers and generators to be located in a roof well, fully surrounded by walls, to reduce any transmission of noise,
- All louvers and exhaust stacks on the exterior will have sound attenuation ('silencers') to control any noise output,
- Garage exhaust fans should be low-speed and have carbon monoxide sensors so that the fans only turn on as needed, with sound attenuators, and
- Identify whether vivariums are to be included, and if so the protocols for animal acquisition, husbandry, handling and safety.

Different Biosafety Levels Present Different Risks

There are four levels of Biosafety in biotech labs. These levels are set by international standards and are intended to define the increasing levels of hazard to lab workers depending on the infectious agents, ranging from relatively benign agents to virulently lethal ones. It is important to note that standard safety protocols do not address hazards to the natural environment and community. Biotechnology labs may involve labs at different BioSafety Levels, at different times, depending on need.

Please evaluate impacts from each biosafety level anticipated for this project. Potential mitigation measures include:

1. Requirements for the city or county to establish public health and safety protocols, for all relevant biosafety levels, including first responder training for
 - how to use the ventilation equipment for uninterrupted positive/negative air pressure which is critical for safety and total air replacement systems,
 - what to do in the event of system failure,
 - what to do in the event of a power outage,
 - what to do in the event of flooding causing infrastructure failure and damage,
 - what to do in the event of seismic event causing infrastructure damage, and
 - what to do in the event of back-up system failure.

2. Require all operators proposing the use of regulated biological agents at BSL-1, BSL-2 or BSL-3 containment levels to obtain a permit from the County Health Department before commencing or continuing said research, manufacturing, or other use of regulated biological agents and annually thereafter. BSL-4 should be prohibited.

HYDROLOGY AND WATER QUALITY

Climate Challenge: Water above and below ground

Associated with climate change, meteorological shifts have already changed the local climate: extended periods of drought and less frequent but intense, major storms or sequential storms such as the Bay Area's October 2021 atmospheric river. Such storms test local stormwater systems and, by infiltration, sewer systems, and produce surface ponding and localized flooding. The rising groundwater impact of sea level rise (subsurface aquifers) will exacerbate the problem. The DEIR needs to set a framework for development actions that can adapt and survive these climate changes.

An important reference to consult is a report prepared by the San Francisco Estuary Institute for the City of Sunnyvale: Sea-level rise impacts on shallow groundwater in Moffett Park.¹² This report is specific to findings in Moffett Park but its analysis is useful, discussing potential impacts and adaptation action for development. Notably its sources for groundwater data are from existing well databases, not involving any physical hydrologic study. As food for thought, below is the list of potential impacts compiled in the SFEI report.

- Corrosion: Salinity impacting below ground infrastructure
- Buoyancy: Buoyant force impact on foundations, buried utilities and pipes, roads
- Seepage: Seepage into subsurface structures, floors, walls
- Infiltration: Infiltration into stormwater and sewage pipelines reducing capacity
- Liquefaction: Higher water tables increase liquefaction risk
- Damage to vegetation: Saturated soils and/or higher salinity can impact plants
- Contaminant mobilization: Movement in existing remediation or of unidentified contaminants
- Emergence flooding: Site-dependent and even non-emergent levels can exacerbate surface flooding

Again, given the hydro-geologic location of the project, we strongly urge inclusion of groundwater rise analysis in the DEIR.

The DEIR should evaluate the potential for rising groundwater to worsen spread of hazardous contaminants existing in surface soils within the project area.

Sea level rise is projected to lead to increased direct flooding of the project area which is already at risk from King Tides and storm surges. A less recognized hazard that should

¹² SFEI et al, Sea-level rise impacts on shallow groundwater in Moffett Park, November 2021; <https://static1.squarespace.com/static/5e38a3dd6f9db304821e8e5e/t/61a7b37743ec4b770e11ee73/1638380421678/Moffett+Park+Specific+Plan+Groundwater+Addendum.pdf>

be evaluated in the DEIR is surface flooding associated with climate change-induced severe storm events and the potential for rising groundwater tables to bring buried pollutants to or nearer to the surface, perhaps to infiltrate degraded stormwater or sewage lines and to transport additional pollutants into wetlands or the Bay. Rising water could move contamination in buried soils laterally or vertically and, if present, release hazardous vapors along utility conduits and into buildings. The DEIR needs to include a hydrologic evaluation of this potential pathway for chemical exposures.

LAND USE AND PLANNING

As mentioned above, consider an alternative to the proposed project with a 100 foot setback from the Bay, creek, and marsh edge to accommodate a wider and taller future levee and nature based adaptation.

Bay fill should be avoided in any aspect of this project, including the possibility of future levees.

NOISE

Evaluate noise and vibration, including the effects of noise on people, neighboring buildings (existing and expected by zoning), nature and wildlife along the Bay, existing sensitive receptors in the project vicinity, existing sources and maximum noise levels anticipated or allowable in the project, and groundborne vibration during the construction period and operation of the building. Include methods to mitigate the effects of increased noise and vibration.

POPULATION AND HOUSING

Given the substantial proposed increase in development intensity, the DEIR should study the expanded project's impact on city-wide and regional jobs/housing balance. The Bay Area is in a regional housing crisis and the actions of each city contribute to the overall imbalance.

RECREATION

The DEIR should evaluate how increased Bay Trail use will impact Bay, creek, and slough wetlands. See Biological Resources Section.

UTILITIES AND SERVICE SYSTEMS

Impact of rising groundwater

The project area is served by utilities that rely on underground conduits that may be seriously impacted by rising groundwater associated with sea level rise. Please see the rising groundwater discussion in our comments on Hydrology and Water Quality.

Sewer System Analysis


The DEIR should analyze and provide a baseline of existing location and physical conditions of the sewer services. The analysis should provide maps of the existing sewer pipeline system showing where it is located and what is known about pipe conditions that are inclusive of degradation due to aging.

Thank you for the opportunity to submit comments on the Peninsula Crossing Project NOP. We look forward to continued engagement in the review of the draft EIR.

Sincerely,



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Campaign Coordinator, Bay Alive
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