



Friends of Five Creeks

*Volunteers preserving and restoring watersheds of
North Berkeley, Albany, Kensington, south El Cerrito and Richmond since 1996
1236 Oxford St., Berkeley, CA 94709
510 848 9358 f5creeks@gmail.com www.fivecreeks.org*

Feb. 23, 2023

City of Berkeley Mayor Jesse Arreguin, Council Members
City Manager, Public Works Director Liam Garland, Transportation Manager Farid Javandel
Transportation and Infrastructure Commission, Environment and Climate Commission
2180 Milvia St., Berkeley, CA 94704 (by email)

Mayor, Council, Manager, Public Works Director, Transportation Manager, and Commissioners:

Friends of Five Creeks takes no position on parking or bicycles on a re-paved Hopkins Street. However, our volunteer organization, which has worked for local creeks and watersheds for 27 years, feels strongly that the City of Berkeley should be ashamed to having planned this project with no effort to reduce the street's polluting impact on Codornices Creek, our area's only trout stream, running just a half block north.

This is a particular disgrace to a city that claims environmental credentials. The Monterey Market area is the exact spot where foam from a city fire truck ran in a short, straight storm drain to the creek in 2019, wiping out nearly the entire population of threatened steelhead trout. Here is a summary of how the city has repeatedly failed to consider the creek:

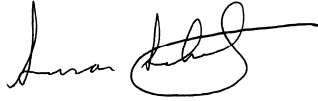
- Shortly before the Hopkins planning began, the city repaved Monterey Avenue, providing for bicycles – but not for reducing polluted runoff, even where Monterey crosses the creek.
- The city promised that green infrastructure would be integral to the Hopkins Street paving project. Its consultants, however, did not include this in public-meeting agendas or discussion. Our letters calling for truly complete streets ([available here](#) and [here](#)) have been ignored.
- No plan we have seen has any indication of so-called green infrastructure to reduce pollution. As far as we can tell, staff, elected officials, and consultants talk only about aesthetic details, not reducing the petroleum residues, heavy metals, and other toxics that wash to creeks and the Bay, making life even harder for struggling wild creatures.
- Transportation Director Farid Javandel has admitted, in writing, that the city is rushing this project to contract in order to dodge stiffened pollution-reduction requirements that go into effect on June 30.

If Berkeley pushes this project through under today's weaker environmental rules, the least elected officials and staff should do is make sure that final plans include meaningful infrastructure that keeps pollution out of our only trout stream. There are many ways to do this other than space-devouring swales and rain gardens. We would be happy to discuss possibilities.

We look forward to a project that recognizes that “complete streets” also reduce the pollution they cause.

Sincerely,

Friends of Five Creeks is a partner project of 501(c)3 Berkeley Partners for Parks



Susan Schwartz, President, Friends of Five Creeks

City of Berkeley Mayor Jesse Arreguin, Council Members

Cc: City Manager, Public Works Director Liam Garland, Transportation Manager Farid Javandel
Transportation and Infrastructure Commission, Environment and Climate Commission
2180 Milvia St., Berkeley, CA 94704 (by email)

Re: Hopkins Street re-paving and re-configuration (follow-up to Feb. 23 letter)

Mayor, Council, Manager, Public Works Director, Transportation Manager, and Commissioners:

Something is wrong when Council faces a take-it-or-leave it April vote on repaving and re-configuring Hopkins Street, with major interest groups clashing, and that April deadline set to avoid measures to protect the city's only trout stream.

All-volunteer Friends of Five Creeks, working for local creeks and watersheds for 27 years, takes no sides in the conflict over this project. City policy on treating runoff and pollution, however, must change.

- Research has added fish-killing tire-wear pollution to the many long-known ingredients of the toxic soup that washes off our streets, as well as the danger from accidental or thoughtless dumping to storm drains.
- New building is increasing how much of Berkeley is paved and roofed. This makes runoff from impermeable surfaces greater and faster. Effects range from floods and erosion to the recent die-off of sharks and rays in Aquatic Park.
- Stiffened [Water Quality Control Board runoff requirements that go into effect July 1](#) essentially require measures to reduce runoff pollution if the city disturbs more than about 200 feet of a street.

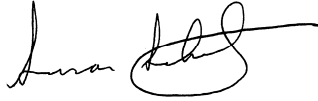
Berkeley staff has known it faced these requirements since they were adopted in May of last year. It chose to rush the Hopkins project to avoid them, break its promise to consider environmental effects, and leave its only trout stream to be polluted for at least a couple of generations – including where Fire Department discharge into a short, straight storm drain killed nearly all the trout in 2019.

As the attached figures show, the city chose to rush this project and seek to avoid pollution-control measures even though its existing [Watershed Management Plan](#) and [Green Infrastructure Plan](#) modeled the Codornices Watershed, presenting potential locations for specific types of measures to reduce runoff and pollution, and their relative effectiveness. Several possible projects are likely to be highly effective – including in the Monterey Market area, origin of the deadly fish kill.

Staff is now considering what green infrastructure measures might be sandwiched in. In deciding whether to approve this project, Council must judge whether these last-minute, take-it-or-leave-it measures, if offered, are meaningful.

Future city policy must include early planning for pollution reduction in street projects. Complete streets must also be green streets. This means high costs and hard choices. Council should require that these be faced openly and explicitly.

Sincerely,



Susan Schwartz, President, Friends of Five Creeks
Attachments

Below: Codornices watershed Green Infrastructure possibilities, from Berkeley Watershed Management Plan, Balance Hydrologics 2011 Appendix C.

Nov. 10, 2024

Re: Letter Recommending Paulina Lara for Oakland Zoo Animal Care Internship

To Whom It May Concern:

I am delighted to recommend Paulina Lara for an internship at the Oakland Zoo. She would be a major asset not only as an intern, but as a professional in your organization if she pursues zoo animal management, welfare, and conservation as a career.

Paulina has been a valued paid intern for the past 10 months with Friends of Five Creeks, a 27-year-old, otherwise all volunteer nonprofit promoting health creeks, watersheds, and nature from Berkeley to Richmond. We do hands-on work at several projects have work with many local agencies,

Paulina has shown outstanding ability to work with teams, lead co-workers, and work independently.

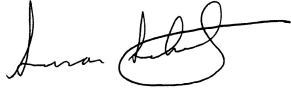
- She shows up early or on time, asking what she can do. She is calm and cheerful, working well with other interns and varied groups of volunteers.
- She pays careful attention to instructions, asks questions, and is conscientious about observing safety precautions.
- At the same, she relishes hard work – for example, learning to use a heavy digging/breaker bar and other large tools.

She has proved herself a leader in a major project in which interns have worked without supervision, carefully mapping and recording nests of (special status) San Francisco Dusky- Footed Wood Rats in the El Cerrito Hillside Natural Area. Besides accurately recording detailed data off-trail, in terrain with steep slopes and poison oak, she has researched requirements for entering records in the California Department of Fish and Wildlife's database, and created and maintains the group's extensive files on observations.

Her ability to work on her own is shown by small interpretive signs she produced for Friends of Five Creeks and, as her senior honors project, her bilingual English and Spanish guide to creek plants and animals and how they interact. This guide is on display at Codornices Creek, our area's only trout stream.

Paulina's interest in and love of wildlife has been evident in many ways: These wildlife and plant guides, the ways that she notices and asks about what she sees and makes observations for iNaturalist., and her career goal: to work with wildlife. This has been clear since I met her, and she has pursued it diligently and systematically, with Friends of Five Creeks and in other projects and trainings. You will be fortunate to work with her and help her on her way.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Schwartz". The signature is fluid and cursive, with a long horizontal stroke extending to the right from the end of the name.

Susan Schwartz, President, Friends of Five Creeks

Sept. 27, 2024

Douglas Bosco, Chair of the Board
California State Coastal Conservancy
1515 Clay Street, 10th Floor
Oakland, CA 94612-1401

RE: City of Berkeley – Coastal Conservancy Grant Application for Marina Blvd Shoreline Resiliency & Public Access Improvements at the Berkeley Waterfront

Dear Chairman Bosco and Board members:

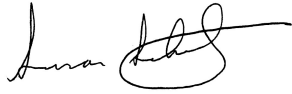
Friends of Five Creeks, a 29-year-old all-volunteer group working for creeks, watersheds, and nature from Berkeley to Richmond, is eager to support true multi-agency planning through the City of Berkeley's Coastal Conservancy grant application for the City's **Marina Blvd Shoreline Resiliency & Public Access Improvements Project at the Berkeley Waterfront**. We have long dealt with this area as hands-on volunteers and recorders of change, including through the California King Tides Project.

Coordination between Berkeley and the East Bay Regional Park District is critical as the Park District plans for the north shore of the Berkeley "Meadow." Solutions will not be easy: The photos below show the flooded trail, Virginia Extension, and parts of the Meadow during a January 2023 storm. More deluges like this are expected to accompany rising sea levels. One East Bay Parks possible solution is naturalizing the shoreline by removing the high rip-rap (submerged in these photos).



This is a prime example of the need for a true multi-agency approach that deals realistically with complex issues: subsidence and possible toxic leaching from garbage fill; floodwaters and any potential for filtration given a rising saline water table; access for pedestrians, bicycles, cars, and perhaps small boats, including disability access; considerations for wildlife; and improved connectivity among Cesar Chavez Park, McLaughlin Eastshore State Park; and the boat yard, hotel, and other marina facilities. We strongly support this approach and grant.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Schwartz", with a stylized flourish extending to the right.

Susan Schwartz, President, Friends of Five Creeks

August 15, 2024

To: California Transportation Commission—Executive Director Tanisha Taylor

Re: Local Transportation Climate Adaptation Program (LTCAP) Application—City of Berkeley’s Interstate 80 and Aquatic Park Lagoon Subsurface Culvert Resiliency Project

Dear Executive Director Taylor:

Friends of Five Creeks, a 28-year-old all-volunteer group working for watersheds and urban nature from Berkeley to Richmond, strongly supports increasing the resiliency of I-80 by preventing failure of the underlying tide tube system, preventing flooding in adjacent West Berkeley, and safeguarding the Aquatic Park Lagoon for future generations. Thus, we support the City of Berkeley’s grant application to the California Transportation Commission’s Local Transportation Climate Adaptation Program (LTCAP) for the **Interstate 80 and Aquatic Park Lagoon Subsurface Culvert Resiliency Project**.

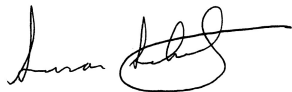
We believe that this project should include feasibility studies, design, and construction for renovating the culverts connecting the three park lagoons to the Bay under I-80, as well as the two culverts connecting the middle to the main lagoon.

This system and the park were built as a hasty WPA project in the 1930s, when construction of Eastshore Highway to feed the new Bay bridge converted a long finger along the Bay shore into a smelly, polluted cesspool trapping runoff. While the beloved and much-used park has in many ways been a success for people, as well as habitat for birds along the Pacific flyway, maintenance has been neglected. One of the two tubes connecting the main to the middle lagoon is entirely blocked; the other has limited flow, sometimes visible as a long plume of black mud. Lack of circulation leads to algae blooms, eutrophication, and increased sedimentation.

Sediments shallowing the south and middle lagoons mean that water forcing its way in at high tides must excavate deep pits in the sediments. The Bay side outfall for the middle lagoon is buried; water exiting must bubble up through sand, as can be seen at low tides. The increasing sediments in the middle lagoon, much of it now shoal at low tide, threaten its utility for receiving stormwater and high tides, essential to preventing flooding well inland in low-lying West Berkeley. (All of this is illustrated in Aquaticpark.org.)

This system also must be renovated to accommodate expected effects of climate change: sea-level rise, rising groundwater, corrosive salt intrusion, and frequent or more severe storms. Friends of Five Creeks have been working to make sure that the City of Berkeley deals with these. A major element is strengthening and improving the circulation system at Aquatic Park and protecting the I-80 corridor and adjacent Frontage Road and Bay Trail.

We look forward to seeing the project completed with the generous support of the California Transportation Commission.

A handwritten signature in black ink, appearing to read "Susan Schwartz", with a stylized flourish at the end.

Susan Schwartz, President, Friends of Five Creeks

April 15, 2024

The Honorable John Garamendi
2004 Rayburn HOB
Washington, DC 20510

Dear Representative Garamendi,

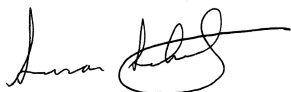
I am writing as president of Friends of Five Creeks in support of the FY 25 Community Project Funding (CPF) request for the Hillside Natural Area (HNA) Fuel Modification project to be included in the Homeland Security – Pre-Disaster Mitigation (PDM) projects CPF appropriations.

The small City of El Cerrito, in the urbanized East Bay Area of Northern California, is home to a population of 25,583 according to the 2020 U.S. Census. It surrounds the City's Hillside Natural Area, approximately 102 acres of City-owned undeveloped open space of grasslands, oak woodlands, small creeks, and popular trails used for recreation and vital for emergencies. The Hillside Natural Area is the city's largest Community-Serving Park and Recreation facility.

However, CAL Fire's web site shows this as located in the Very High Fire Hazard Severity Zone (VHFHSZ). Extensive non-native eucalyptus groves, augmented by flammable pines, and this wildland's immediate proximity to homes, makes it a constant source of concern for El Cerrito residents in the surrounding residential areas, as well as a threat to the entire city. Analysis shows that these trees, as well as the potential of rapid spread of fire up and down stream canyons and through grasslands, could cast embers far and wide, as we have seen in recent Northern California fire disasters. The city does not have adequate fire roads to fight such a blaze, and its system of piped water along the main service road would be grossly inadequate.

The City is seeking \$2,024,000 in Community Project Funding to conduct fuel reduction treatments. While there are many needs, Friends of Five Creeks believes that the top priority must be removal of the tall eucalyptus and pines. Two priority areas for this are: 1) Quarry Hill Eucalyptus Grove adjacent to the PG&E Transmission Corridor and 2) South of Kent Drive. We respectfully ask that you give serious consideration to recommending the requested appropriation of \$2,024,000 to the City of El Cerrito.

Sincerely,

A handwritten signature in black ink, appearing to read "Ana", with a stylized flourish extending to the right.

Susan Schwartz, President, Friends of Five Creeks

April 15 To Whom It May Concern:

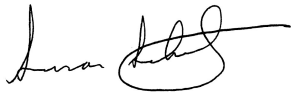
As head of Friends of Five Creeks, a 27-year-old, all-volunteer creek and watershed group working from Berkely to Richmond, I am writing to urge you to make every effort to keep The Watershed Nursery as an asset to your city and the Bay Area.

The Watershed Nursery is a keystone in efforts to conserve, protect, and restore natural areas, maintain biodiversity, and give us a sustainable future in the face of climate change.

- They provide both relatively rare plants essential to restore biodiversity to our urbanized Bay Area, and tough, drought-resistant plant material that does not require harmful pesticides or fertilizers and provides varied habitat for appropriate wildlife.
- They provide large numbers of high-quality, well-grown stock of known origins for restoration efforts by large organizations including the East Bay Regional Park District and cities such as Berkeley and Albany. They also are key providers for small groups like ours. They are our first choice for our small-scale restorations, and are currently seeking to propagate a small native wildflower I discovered at Berkeley's Aquatic Park.
- They have been leaders in efforts to stop the spread of deadly Phytophthora water-molds (related to the organism that causes Sudden Oak Death). They have pioneered and educated others about practices that nurseries need to follow, and taught many ordinary citizens simply by their own practices – for example, a pad with disinfectant that one steps in on entering.
- They generously contribute to the native-plant and restoration communities in other ways. When they have excess seedlings, they offer them free to nonprofits and educators. They give away or sell at very low prices excesses from restoration projects. Their “free” table offers slightly pot-bound or damaged plants that have helped many small groups and gardens.
- Their staff is always ready to advise, and their web site offers valuable information on how to grow plants and where, as well as how those plants help the environment, for example by welcoming pollinators. They train interns who go on to environmental careers that benefit the environment.

Richmond can be proud to house this community asset, which along with The Watershed Project, Urban Tilth, and Annie's Annuals make the city a center for ecological efforts. Please do your best to keep them!

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Schwartz", with a stylized flourish at the end.

Susan Schwartz, President, Friends of Five Creeks

Nov. 20, 2023

Members of the El Cerrito City Council, Urban Forest Committee, Environmental Quality Committee, and Parks and Recreation Commission

El Cerrito City Manager, Environmental Programs Manager Stephen Pree, Senior Program Manager Karineh Samkian, and City Clerk

Re: Proposed Plan for the El Cerrito Hillside Natural Area

El Cerrito Council Members, Commission and Committee Members, Manager, and Staff:

Friends of Five Creeks volunteers have worked for 15+ years reducing fire danger and promoting diverse nature in the Hillside Natural Area. We are eager to see a practical, flexible plan for the future of this beautiful, and highly flammable urban treasure.

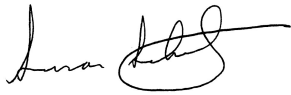
From meetings and documents so far, we are concerned that the plan being prepared may not (a) provide realistic guidance for maintenance or (b) meet requirements of the grantor, the California State Coastal Conservancy. Their web site describes the promised plan as follows (emphasis added):

The City of El Cerrito's Wildfire Planning Project will develop a **comprehensive Fire Resilience and Forest Conservation Management Plan** for the El Cerrito Hillside Natural Area (HNA). The Management Plan will identify critical resource areas and provide guidance for the City's fire fuel reduction, **native forest conservation, and maintenance activities** within the El Cerrito HNA. Additionally, the Management Plan will address emergency access and public recreation in the HNA by evaluating potential access improvements and enhancements to the trail network that connects natural features, schools, and other community assets, including development of a preliminary plan for potential expansion of the existing trail system. The project includes preparation of a CEQA document for the Management Plan.

We hope the El Cerrito will use the suggestions on the second page of this letter to both develop the needed “conservation and maintenance activities” and judge a future draft. They are based on many years of experience, subduing a variety of fire-prone invasives, obtaining small grants to hire professionals, mapping vegetation, and observing ongoing rapid change due to human and other causes.

Please let us know if we can help more. Thank you for your attention.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Schwartz", with a large, stylized flourish at the end.

Susan Schwartz, President, Friends of Five Creeks

U.S. EPA Grants Committee

RE: City of Berkeley's grant application – U.S. EPA Water Quality Program FY2023-24 – Aquatic Park Stormwater Treatment Installations at Aquatic Park

Dear EPA Grants Committee:

Friends of Five Creeks, a 27-year-old volunteer group working for nature and watersheds from Berkeley to Richmond, on the east side of San Francisco Bay, California, strongly supports the City of Berkeley's grant application to the EPA Water Quality Grant Program of 2023 for **Stormwater Treatment Installations at Aquatic Park**. This project proposes feasibility study, design, and construction and installation of hydrodynamic separators at the Bancroft and Channing Way culverts at Berkeley's Aquatic Park, as well as a possible bioswale at Channing Way.

This project is a significant beginning to addressing longstanding water-quality problems at Aquatic Park, which also affect water quality and wildlife of San Francisco Bay. The park's lagoons were created during the Great Depression, when the first version of today's Interstate 80 freeway, built as a feeder to the new Bay Bridge, cut off more than a mile of shallow Bay shoreline. The trapped waters immediately became a stinking cesspool. In 1939, a WPA project hastily turned this into a park, with a few tide tubes, recycled concrete lining shores, and low-cost landscaping. The three lagoons immediately became, and remain, a treasured urban park enjoyed by thousands of people in many ways, and a haven for wildlife, particularly fish including spawning herring, shellfish, and migrant shorebirds and waterfowl.

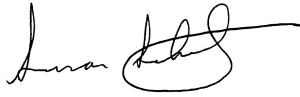
Problems with urban runoff, poor circulation, algae blooms, and wildlife die-offs, however, were evident by the 1940s. In the 1950s, the city came close to selling the park to be filled for industrial expansion. In 1970, the state Water Quality Control Board ordered that no stormwater be discharged to the lagoons – an order never rescinded or carried out. At least four groups of consultants have recommended solutions.

Recently, clearing of some tide tubes followed by three years of drought with little runoff brought respite. The long, heavy rains of winter 2022-3, however, brought big nutrient loads in runoff that turned the lagoons almost entirely fresh. Mass death of leopard sharks and bat rays in February was followed by death of what appears to be nearly all the native mussels except near the tubes admitting saltier Bay water. Mats of scummy yellow-green algae (order Cladophorales) spread from June until they were cut and hauled away in mid-August. (Bottom growth remains.) **Please see photos next page.**

The proposed hydrodynamic separators will meet requirements for total trash capture with much lower lifetime costs than many small storm-drain inserts, (Various barriers in old infrastructure make it virtually impossible to install all the inserts that would be required.) Separators also will reduce oil and gas, as

floatable pollutants, and sediment and nutrients, as grit. A bioswale would also trap small-particle and dissolved pollutants. All of these would be bypassed in deluges, expected to be more frequent as climate changes. Nevertheless, the proposed measures would be a significant start on a longstanding problem. **We hope you will favorably consider this grant.**

Sincerely,



Susan Schwartz, President, Friends of Five Creeks

Photos from Aquatic Park, Berkeley, 2023. All photos GPS'd and time stamped.



Above left: dead bat ray, and right, dead leopard shark, from die-off of at least 60 elasmobranchs in Feb. – Mar. 2023.

Below left: Dead mussels, observed at minus tide May 2023.

Below right: Algae mat with invasive Asian date mussels, July 2023.



Below left: Algae mats, S. end Aquatic Park, Berkeley, shortly after cutting began August 10. Cutting boat approaching upper right.

Below right: Algae on typical shallow bottom after removal of surface mats.



U.S.D.O.T. PROTECT Discretionary Grants Committee
RE: PROTECT Discretionary FY2023-24 Grant Program – University Ave Shoreline Resiliency and Habitat Upgrade Project

Dear Grants Committee:

On behalf of the Friends of Five Creeks, a 27-year-old, all-volunteer organization working hands-on for creeks and watersheds, we are writing to support the City of Berkeley’s grant application to the U.S.D.O.T. PROTECT Discretionary Grant Program of FY2023-24 for the City’s **University Ave Shoreline Resiliency and Habitat Upgrade Project**.

Our mission is to mobilize volunteers of all ages to restore, maintain, understand, and enjoy the creeks and watersheds of the East Bay from Berkeley to Richmond. As part of this, we have worked for more than 20 years controlling invasives and planting and supporting native vegetation along the shoreline both south and west of the culverted mouth of Strawberry Creek, a small creek important in local history. **The shoreline west of this creek and south of University Avenue is the subject of this grant proposal.**

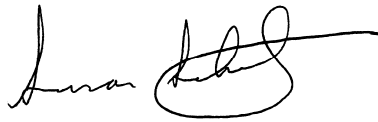
In recent years, we have documented alarming changes along this shoreline through the California King Tides Project and otherwise, including leading frequent public interpretive walks to inform the public about climate change. The beach south of the creek mouth has eroded eastward at least 15 feet. Its westward edge has steepened (increasing wave effects), and a back beach area has sunk, becoming a shallow lagoon in each rainy season.

West of the creek mouth – the subject of this study – storm waves are moving farther inland and the low shoreline bluff is eroding. This accelerated markedly in the long winter and spring of powerful storms just past. As you know, with climate change, we can expect more such storms. Our photos show that debris berms after storms came closer to the Bay Trail than ever before. Parts of the bluff collapsed, leaving marked scars. The bluff edge is moving close to and threatening a long-established informal shoreline trail. **Two of many photos are on p. 2 of this letter.**

As a recent City of Berkeley analysis shows, waves can be expected to reach University Avenue within a generation, threatening the only paved road to and from the Berkeley Marina area and its large and popular parks, hotel, and restaurants. The sewer connection for this area also lies in this vulnerable strip. Since the area is entirely human-made fill of uncertain origin, rising water tables and salt intrusion also threaten to mobilize buried toxics. The Bay Trail extension paralleling University Avenue on the south, and restored Berkeley Meadow area on the north, also could be affected.

We look forward to a design project that will consider the feasibility of a full range of potential solutions.

Sincerely,



Susan Schwartz, President, Friends of Five Creeks



Above: Debris tossed close to Bay Trail Extension by storm waves, March 2023. University Avenue is just beyond trail.

Below: Freshly eroded bluff approaching long-established foot trail. Bluff beyond roughly shows previous extent.



Photo credits: Friends of Five Creeks. These photos may be used non-commercially without further permission.



Friends of Five Creeks

*Volunteers preserving and restoring watersheds of
North Berkeley, Albany, Kensington, south El Cerrito and Richmond since 1996
1236 Oxford St., Berkeley, CA 94709
510 848 9358 f5creeks@gmail.com www.fivecreeks.org*

August 14, 2023

U.S.D.O.T. PROTECT Discretionary Grants Committee

RE: PROTECT Discretionary FY2023-24 Grant Program – Berkeley Aquatic Park Lagoon and Roadway Subsurface Culvert Resiliency Upgrade Project

Dear D.O.T. Grants Committee:

On behalf of the Friends of Five Creeks, a 27-year-old, all-volunteer organization working hands-on for creeks and watersheds, we are writing to support the City of Berkeley's grant application to the U.S.D.O.T. PROTECT Discretionary Grant Program of FY2023-24 for the City's **Berkeley Aquatic Park Lagoon and Roadway Subsurface Culvert Resiliency Upgrade Project**.

Our mission is to mobilize volunteers of all ages to restore, maintain, understand, and enjoy the creeks and watersheds of the East Bay from Berkeley to Richmond. As part of this, we have worked for more than 15 years controlling invasives at the Aquatic Park lagoons. In the past two years, we have been closely observing changes at Aquatic Park due to concerns about sea-level rise, climate change, and die-offs of wildlife in the brackish lagoons.

The requested project will perform the feasibility and design work to renovate the existing subsurface transportation culverts (tide tubes) at Berkeley Aquatic Park to be more resilient to the anticipated impacts of increased storms and rising seas. **A recent maintenance inspection project found that the culverts (located underneath Interstate 80) are projected to fail within ten years. Failure could lead to significant sinkhole damage across Interstate 80** in a section that sees over 520,000 vehicle trips per day, as well as significant stormwater flooding at numerous local businesses and roads at Aquatic Park and adjacent streets in West Berkeley.

These culverts are also important environmentally. Aquatic Park and its lagoons were hastily created during the Great Depression as a Works Progress Administration solution after the first version of today's I-80 Freeway was built as a feeder to the new Bay Bridge. This Eastshore Highway cut off a long segment of Bay, which immediately became a stagnant cesspool. Thanks to a few tide tubes, low-cost landscaping, and imaginative construction using recycled materials, the new park quickly became and has remained a beautiful attraction to thousands of recreationists as well as many kinds of fish and birds. **However, water exchange, circulation, and inflow of polluted urban runoff have caused repeated problems.** Most recently, in 2023, a mass die-off of bat rays and leopard sharks was followed by mass death of native mussels except near the main tide gates. Almost no small fish are to be seen, and birders note that they see few of the herons, egrets, cormorants, and pelicans that usually feed on them. **A major cause appears to have been prolonged winter and spring storms, which kept the lagoons almost entirely fresh for long periods.**

Salinity in Aquatic Park had been close to that of the neighboring Bay, with healthy growth of red, brown, and green seaweeds in 2022. This summer, there are almost none. Instead, **large areas of the main lagoon were covered with a yellow-green, scummy filamentous algae.**

In environmental questions, both causality and solutions are often complex. Nevertheless, common sense, observation, and repeated studies in the past, indicate that the few tide tubes should be kept open. **The photos on the next page show some of the problems.**



f

M
l
r
a



Dead bat ray (left) and mussels (above), Aquatic Park, 2023



Left: scummy filamentous algae, south end of Aquatic Park main lagoon, August 2023. I-80 in background.

All photo credits: Friends of Five Creeks. Photos may be used non-commercially.

Please consider this request favorably.

Sincerely,

Susan Schwartz, President, Friends of Five Creeks

Friends of Five Creeks is a partner project of 501(c)3 Berkeley Partners for Parks