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November 18, 2009

Ms. Sharon Farrell
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Phil Ginsburg
General Manager
San Francisco Recreation and Park Department
McLaren Lodge & Annex
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S.F. Recreation Park Commission
501 Stanyan Street
San Francisco, CA 94117
FAX: 415-221-8034
recpark.commission@sfgov.org

Subject: Sharp Park Conceptual Restoration Alternatives Report Review

Dear Sirs/Madams:

I am writing to clarify Kamman Hydrology & Engineering, Inc.'s (KHE) roll in the Sharp Park Conceptual Restoration Alternatives Report, prepared by Tetra Tech, Karen Swaim, and Nickels Golf Group and provide an opinion regarding the alternatives presented in the report. As referenced in the Report, KHE completed a hydrology study of the Laguna Salada – Horse Stable Pond complex and feel our work is credible and accurate. However, we did not participate in the development or assessment of proposed restoration alternatives for this study. KHE did respond to specific questions about the Laguna conditions posed by selected reviewers of the draft report, but we were not asked or contracted to formulate or review the proposed alternatives or restoration report.

I preface this letter in this manner because I feel the proposed alternatives do not optimize the restoration potential at the site. The newly created Mori Point ponds provide a clear example of the potential for restoration success. To the best of our knowledge, there was no hydrologic assessment completed to create similar habitats along the Sanchez Creek corridor and surrounding environs, especially under the No Golf Course alternative. I am also concerned that the report does not provide a fair and balanced ranking of alternatives. It is my opinion, an overestimate of the need to off-haul material under the No Golf Course alternative results in an inappropriately low ranking.

I feel qualified to make these statements as I have considerable experience and expertise in the planning, hydrologic/hydraulic technical feasibility analysis, engineering design

and construction oversight of coastal freshwater wetlands ecological restoration projects. Some of my firms most recent and relevant ecological restoration work includes the following projects:

1) Lead hydrologist and design engineer of CRLF breeding ponds and SF garter snake habitat at Mori Point;
2) Hydrologic and engineering design of CRLF breeding and rearing pond and riparian corridor along Redwood Creek, upstream of Muir Beach in Marin County;
3) Hydrologic and engineering design of four separate seasonal and perennial freshwater marsh/pond complexes for CRLF habitat as part of the Giacomini Wetland Restoration Project at Pt. Reyes National Seashore (we also acted provided hydrologic, geomorphic and engineering design services to the overall Giacomini project);
4) Lead hydrologist and, in most cases, lead design engineers for at least a half dozen independent riparian corridor and seasonal wetland restoration projects throughout the Presidio of San Francisco;
5) Hydrologist, engineers and lead conceptual restoration designers for riparian corridor and marsh interface restoration for a tributary confluence to Rodeo Lagoon, Marin County;
6) Technical advisor to conceptual design of Big Lagoon Restoration Project, Marin County; and
7) Technical feasibility assessment to assess feasibility for ecological restoration of Pescadero Lagoon.

In conclusion, I would also like to reiterate a recommendation from our hydrology report (Appendix A of Restoration Alternatives Report), that the long-term sustainability of freshwater conditions in the Laguna be evaluated, and the priority for restoration and protection of coastal freshwater systems be strongly considered presently and in the context of accelerating sea-level rise.

If you have any questions or concerns, please call me.

Sincerely,

Greg Kamman
Principal Hydrologist

August 19, 2009

Phil Ginsburg
General Manager
San Francisco Recreation and Park Department
501 Stanyan Street
San Francisco, CA 94117

Dear Mr. Ginsburg:

We are a group of biologists, herpetologists, ecologists, and hydrologists with collective expertise regarding wetlands, endangered species habitats, and herpetology writing to you regarding the future of Sharp Park in the City of Pacifica.

Sharp Park contains unique coastal wetlands habitat features and is important habitat for two interdependent federally listed species. The extremely endangered San Francisco garter snake, confined to six areas on the upper San Francisco Peninsula, is federally and state listed as endangered. The California red-legged frog, found in wetlands in lowlands in central California, is federally listed as threatened. The red-legged frog is the primary prey species for the San Francisco garter snake.

The San Francisco Recreation and Park Department is currently preparing an alternatives assessment for restoration of Sharp Park, as required by legislation recently passed by the San Francisco Board of Supervisors.

We, the undersigned scientists, contend that restoration of Sharp Park wetlands and uplands habitats and connectivity with protected adjacent open space is the best option to ensure the long term survival of the San Francisco garter snake and the California red-legged frog in the area. We are concerned that certain management activities conducted at the Sharp Park Golf Course are incompatible with restoring healthy populations of these endangered species.

Our expert opinion is based on the following:

Mowing of greens and fairways at the golf course has killed, and likely continues to kill San Francisco garter snakes. Mowing adjacent to aquatic features on the golf course adversely modifies habitat for garter snakes and red-legged frogs.

Water pumping at Horse Stable Pond continues to kill red-legged frogs during breeding season: pumping has been documented to strand, desiccate and kill red-legged frog eggs. Pumping also adversely modifies freshwater foraging habitat for garter snakes, and limits the frog population which is the prey base for garter snakes.

Destruction of rodent burrows and trapping of gophers by the golf course has a detrimental effect on both species: garter snakes and red-legged frogs use gopher holes and other animal burrows as refugia. Not only are gopher and other rodent burrows important habitat features for their survival, but excavating and/or filling burrows can inadvertently harm, crush, and kill these species.

Vegetation management at the golf course has reduced suitable cover and upland hibernation habitat for both the snake and frog. Habitat modification from golf course

maintenance functionally separates foraging and breeding habitat in the lagoon from essential upland habitat for both species.

Numerous pesticides (including fungicides, herbicides, and rodenticides) are known to adversely affect red-legged frogs and San Francisco garter snakes. Despite a San Francisco pesticide ordinance, regulation by the Department of the Environment, and an Integrated Pest Management approach, some pesticides continue to be used at the golf course which could have an impact on water quality within Laguna Salada and a corresponding effect on endangered species.

Inorganic fertilizers used by the golf course containing nitrogen and phosphorous can adversely alter habitat at Laguna Salada and Horse Stable Pond by encouraging rapid cattail growth and eutrophication (stimulation of excessive plant growth due to excess nutrients, reducing dissolved oxygen) of these water bodies, and can be toxic to amphibians and reptiles at high concentrations.

The managed wetland system at the golf course increases flood risk and is not sustainable as presently configured.

We urge the San Francisco Recreation and Parks Department to prepare a comprehensive site restoration plan for Sharp Park that will enhance habitat quality within the park, and significantly restore healthy populations of both the frog and the snake.

We stress that alternatives considered by the Department should be evaluated based on their potential to help the San Francisco garter snake and the California red-legged frog recover, rather than merely halting illegal “take” or harm to these species. Despite federal protection the San Francisco garter snake has been in decline due to continued habitat destruction. The garter snake population at Sharp Park and Mori Point is crucial for the overall survival of the species.

Sincerely,

Robert Battalio, M.Eng., P.E.
Principal, Philip Williams & Associates
San Francisco, CA
Extensive experience with coastal engineering and restoration of coastal lagoons and estuarine areas

Peter Baye, Ph.D. - Coastal Plant Ecologist
30 years professional experience in applied ecology and botany, with career focus on coastal wetlands, dunes, and beaches

Carlos Davidson, Ph.D. - Conservation Biologist and Ecologist
Director and Associate Professor
Environmental Studies Program
San Francisco State University
Expertise in conservation ecology and California amphibians

Robert C. Drewes, Ph.D. Biologist
Curator of Herpetology
California Academy of Sciences

Expertise in herpetological systematics and ecological physiology

Ted Papenfuss, Ph.D. – Zoologist
Research Specialist in Amphibians and Reptiles
Museum of Vertebrate Zoology
University of California, Berkeley
Expertise in biogeography and systematics of amphibians and reptiles

Peter H. Raven, Ph.D. – Botanist
President
Missouri Botanical Garden
St. Louis, Missouri
Expertise and many years of study on the plants of Central California

H. Bradley Shaffer, Ph.D. - Evolutionary and Conservation Biologist
Professor of Evolution and Ecology
Department of Evolution and Ecology
University of California, Davis
Expertise in conservation genetics and herpetology, with ongoing research on California red-legged frog and other declining California amphibians and reptiles

Todd Steiner - Biologist
Executive Director
Turtle Island Restoration Network
Conducted early 1990s study of garter snakes and red-legged frogs at Shark Park for San Francisco

Samuel S. Sweet, Ph.D. - Zoologist
Department of Ecology, Evolution and Marine Biology
University of California, Santa Barbara
Expertise in vertebrate systematics and evolutionary morphology; herpetology

September 6, 2011

San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
Mayor Edwin Lee
City Hall, Room 200
San Francisco, CA 94102-4689

Re: Restoration of Sharp Park

Dear Board of Supervisors:

We are a group of scientists with collective expertise and experience regarding coastal wetlands and endangered species habitats. We are writing regarding the future of Sharp Park in the City of Pacifica. Given the recently proposed legislation for the City of San Francisco to co-manage Sharp Park in partnership with the National Park Service, you have a historic opportunity to restore regionally significant wetlands and endangered species habitat within and around the unique coastal lagoon ecosystem at Sharp Park.

We, the undersigned scientists with backgrounds in biology, herpetology, ecology, coastal engineering and hydrology, contend that the peer-reviewed scientific report and proposed restoration plan prepared by ESA-PWA with Dr. Peter Baye and Dawn Reis Ecological Studies in February 2011, *Conceptual Ecosystem Restoration Plan and Feasibility Assessment for Laguna Salada*, contains the best available science on the ecology of the Laguna Salada and surrounding natural features at Sharp Park, as well as the impacts of the management of the Sharp Park Golf Course on endangered species and their habitats at the site.

The restoration of Sharp Park wetlands and uplands habitats and connectivity with protected adjacent open space, as proposed in the ESA-PWA report, is the best option to ensure the long term survival of the San Francisco garter snake and the California red-legged frog in the area.

Conversely, the San Francisco Park Department recommendation for Sharp Park released in 2009 was to maintain 18 holes of the golf course while making small changes in the course layout to address environmental concerns, construct a multi-million dollar seawall along the coast, and invest millions of dollars into course improvements. This would have negative consequences for endangered species and their habitats, increase the potential for flooding, result in the loss of the Sharp Park beach and incur significant costs to the City's budget, all in order to maximize golf opportunities.

It is our conclusion that the minimal habitat enhancement proposed by the Park Department in their preferred 18-hole alternative is inadequate to allow the recovery of the San Francisco garter snake and red-legged frog at the site, and is set up to fail with climate change and sea-level rise.

Sharp Park contains unique coastal wetlands habitat features and is important habitat for two interdependent federally listed species. The extremely endangered San Francisco garter snake, confined to six areas on the upper San Francisco Peninsula, is federally

and state listed as endangered. The California red-legged frog, found in wetlands in lowlands in central California, is federally listed as threatened. We concur with the ESA-PWA report that "Laguna Salada represents one of the best opportunities in the Central Coast region to improve and restore impaired lagoon wetland habitats for endangered species."

Sincerely,

Carlos Davidson, Ph.D. - Conservation Biologist and Ecologist
Director and Associate Professor
Environmental Studies Program
San Francisco State University
Relevant Experience: Expertise in conservation ecology and California amphibians

Dr. Kerry Kriger, Ph.D. - Ecologist
Founder, Executive Director of Save The Frogs
Relevant Experience: Expertise on amphibian disease; research into amphibian declines; articles in peer-reviewed international scientific journals

Peter H. Raven, Ph.D. – Botanist
President, Missouri Botanical Garden
St. Louis, Missouri
Relevant Experience: Expertise and many years of study on the plants of Central California

Glenn R. Stewart, Ph.D. - Zoologist and Ecologist
Professor Emeritus of Biological Sciences
California State Polytechnic University, Pomona
Relevant Experience: Expertise in the ecology and systematics of reptiles, amphibians and mammals

Samuel S. Sweet, Ph.D. - Zoologist
Department of Ecology, Evolution and Marine Biology
University of California, Santa Barbara
Relevant Experience: Expertise in vertebrate systematics and evolutionary morphology; herpetology

Michael Vasey - Botanist
Assistant Professor of Biology
San Francisco State University
President of the California Botanical Society
Relevant Experience: Trained botanist and conservation biologist; involvement in wetland conservation issues for nearly 15 years, extensive field work in wetlands