



Alameda City Council  
June 4, 2024



# Who we are

Natel is a technology and engineering company working to support healthy rivers, promote biodiversity, and decarbonize the grid.



GIA SCHNEIDER  
CEO, co-founder



ABE SCHNEIDER  
CTO, co-founder



KIZZIE BROWN  
CFO



GREGOR CADMAN  
COO, VP Engineering





# Member of Alameda Point for 15 Years

Oakland Estuary

Building 19  
2010 - 2015

Building 400A  
2014 - 2015

Building 23 2015 - Present

Purchased in 2018

Facility is used for  
engineering, R&D, and  
testing

# What we do

Natel specializes in data-driven hydraulic design of FishSafe™ hydropower turbines.

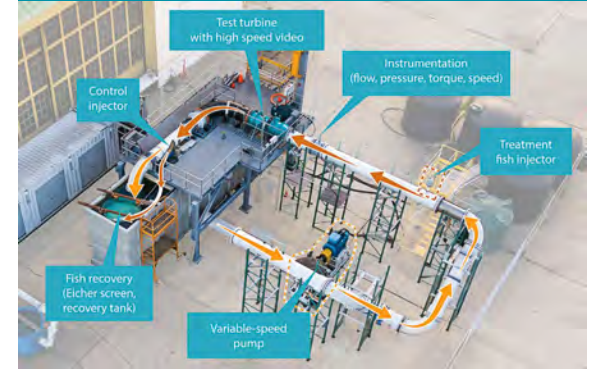
## FishSafe™ Turbine Design



## Engineering Services



## Lab Testing: Scale model performance & fish passage



# Why our work matters

## Hydropower is the backbone of a carbon-free grid

With the ability to keep the lights on when the wind doesn't blow and the sun doesn't shine hydropower is an essential dispatchable renewable resource. The IEA calls for adding 50GW of hydro annually by 2030 to limit warming to 1.5°C.

### The problem

Half of the global hydro fleet is over 40 years old & in need of new turbines.

Hydropower plants intersect with fish migrations, and 1 in 5 fish passing through a conventional turbine is killed.

### The solution

**Natel FishSafe™ turbines can repower the existing fleet while enabling 98–100% survival of fish passing through — keeping critical hydro resources online and preserving aquatic biodiversity.**

# Innovation and leadership

- Multiple U.S. Department of Energy grants including both completed and upcoming tests utilizing Natel's lab
- 4 groundbreaking journal publications, with more on the way
- Partnerships with U.S. and international turbine manufacturers
- Relationships with leading NGOs and fisheries regulators
- Numerous awards including Cleantech Breakthrough 2024 Hydropower Solution of the Year and finalist for the upcoming Reuters Global Energy Transition Award
- A major contract from a U.S. utility to address eel passage is prompting an expansion of lab capability

U.S. DEPARTMENT OF  
**ENERGY** | Office of ENERGY EFFICIENCY  
& RENEWABLE ENERGY  
WATER POWER TECHNOLOGIES OFFICE



AMERICAN HYDRO



AMERICAN RIVERS



Pacific Northwest  
NATIONAL LABORATORY



North American Journal of  
Fisheries Management

Transactions of the  
American Fisheries Society

Fish Conservation Physiology Lab  
University of California, Davis





# Innovation and leadership



“Natel’s turbine [is] the **first in the industry** to enable **safe fish passage** for **large and small fish** while meeting **high performance metrics** and **matching standard installation configurations**, and demonstrates significant progress in efforts to preserve biodiversity while advancing renewable energy production.”

—DOE Office of Energy Efficiency & Renewable Energy

[Large US Utility] has selected the technology that it believes will provide **safe, timely and effective downstream passage** of eels. Currently negotiations are ongoing with American Hydro for construction and installation of a **turbine designed by Natel Energy**.

—[Large US Utility], one of the top 10 electric utilities in the United States

*Logo not shared to comply with customer preference*

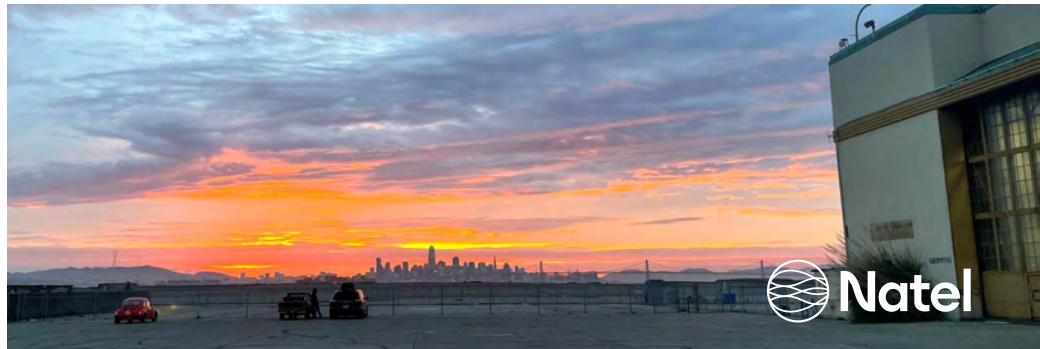
# Test Equipment

Natel's equipment enables performance testing of our industry-leading turbine designs.

- Will be the only U.S. owned IEC compliant hydraulic facility
- Has partnered with DOE, Pacific Northwest National Laboratory, and U.C. Davis to conduct studies
- Is core to Natel's ability to innovate and deliver on utility contracts

Natel is sensitive to view concerns and has worked with staff to minimize the blockage of outdoor equipment.

Natel's operations plan is aligned with outdoor usage constraints from the Biological Opinion, as well as the conditions included by Planning in their Resolution PB-24-07.





# Community Engagement



Trash Cleanups on the Point



Save the Bay



Classroom Visits



Friends of Sausal Creek



Watershed Project



REAP Climate Center



# Support





# Supporting Neighbors



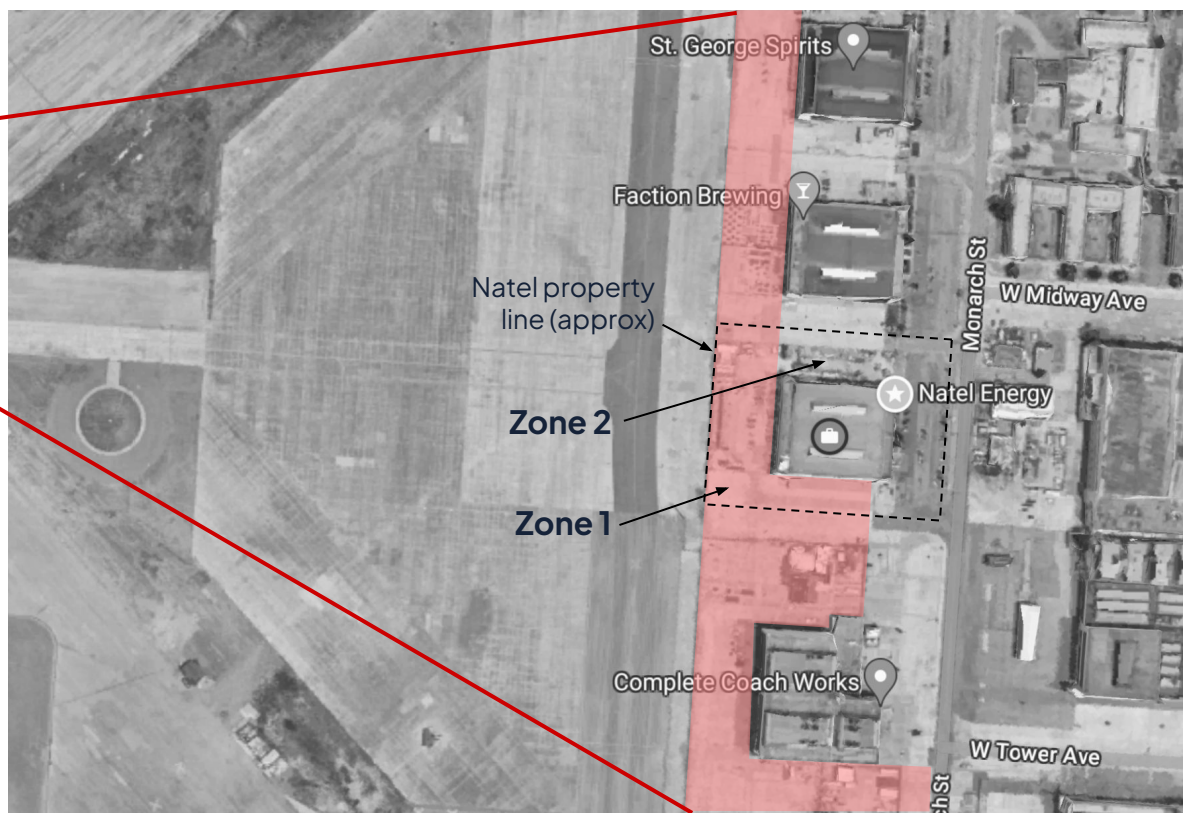
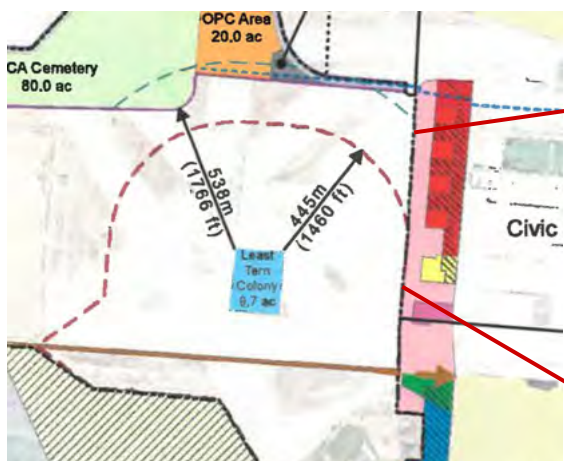




Working to create a planet where a reliable, zero-carbon grid is balanced with a thriving natural environment.



**BACKUP**



USFWS

81420-2009-F-0952-4

Figure 1, Building Development Zones (above)

Zones 1 and 2 reproduced on a Google Maps image (right)

Zone 1: no new buildings... greater than 4 feet in height without prior approval from the Service.

Zone 2: area of allowed future development. Any new buildings constructed or extensions of existing buildings shall not exceed the height of the existing buildings.





# Support

Natel's business aligns with our town's long-term sustainability goals and environmental objectives. By supporting Natel we can set a positive example for neighboring communities and contribute to broader efforts to combat climate change on a global scale.

- **David Mik, President**  
**Power Engineering Construction**



Natel Energy presents an innovative approach to addressing our energy needs while simultaneously reducing our carbon footprint and ensuring ecological biodiversity and river connectivity. Their commitment to harnessing renewable resources aligns perfectly with Alameda's values of environmental stewardship and forward-thinking development.

- **Joe Ernst, Managing Principal**  
**SRM Ernst Development Partners**



Embracing sustainable energy solutions is essential for mitigating environmental concerns and fostering economic growth and resilience... The City approved the sale of Building 23 to Natel's investors years ago and should continue to support their growth in Alameda.

- **Malden Saddik, CEO**  
**Alameda Chamber & Economic Alliance**



# Support

Natel Energy is a leader in the development of fish-safe hydro turbines, and their test facility in Alameda is key to their leadership and innovation... their test facility is unique and valuable within the hydropower industry nationally and internationally.

- **Dr. Zhiqun (Daniel) Deng**  
**Pacific Northwest National Laboratory**



Natel is an asset to Alameda Point... In approving the expansion of their use permit, we can not only advance cutting-edge research and development but also demonstrate our city's leadership in promoting renewable energy solutions, ones that account for long term ecological balance.

- **Margaret Su, Owner / CEO**  
**The Prep Station**



As an advocate for climate action, biodiversity preservation, and the holistic growth of Alameda's economy and community, I take immense pride in Natel's contributions to Alameda. Moreover, as a parent of two small children here in Alameda, I find solace in the prospect of nurturing a generation of environmentally conscious individuals inspired by the collective efforts of climate-focused enterprises in our town.

- **Matt Kreutz, CEO**  
**Firebrand**





# Support

Natel is a leader in the hydropower industry advancing the science around how to design fishsafe turbines that help restore critical corridors through rivers for fish and other aquatic life, while enabling reliable, renewable energy from hydropower.

With over half of the United States hydropower fleet over 50 years old and in need of modernization, Natel's turbines present an opportunity to integrate enhanced environmental performance with the necessary cost of repowering.

The work that Natel does on their test facility in Alameda is critical to provide the rigorous test data that we and other environmental NGO's need to see to have confidence in their innovative designs. Natel has a robust track record of engaging with the environmental community, and I hope you approve the expansion of their test facility.

- **Curtis Knight, Executive Director  
California Trout**



# Support

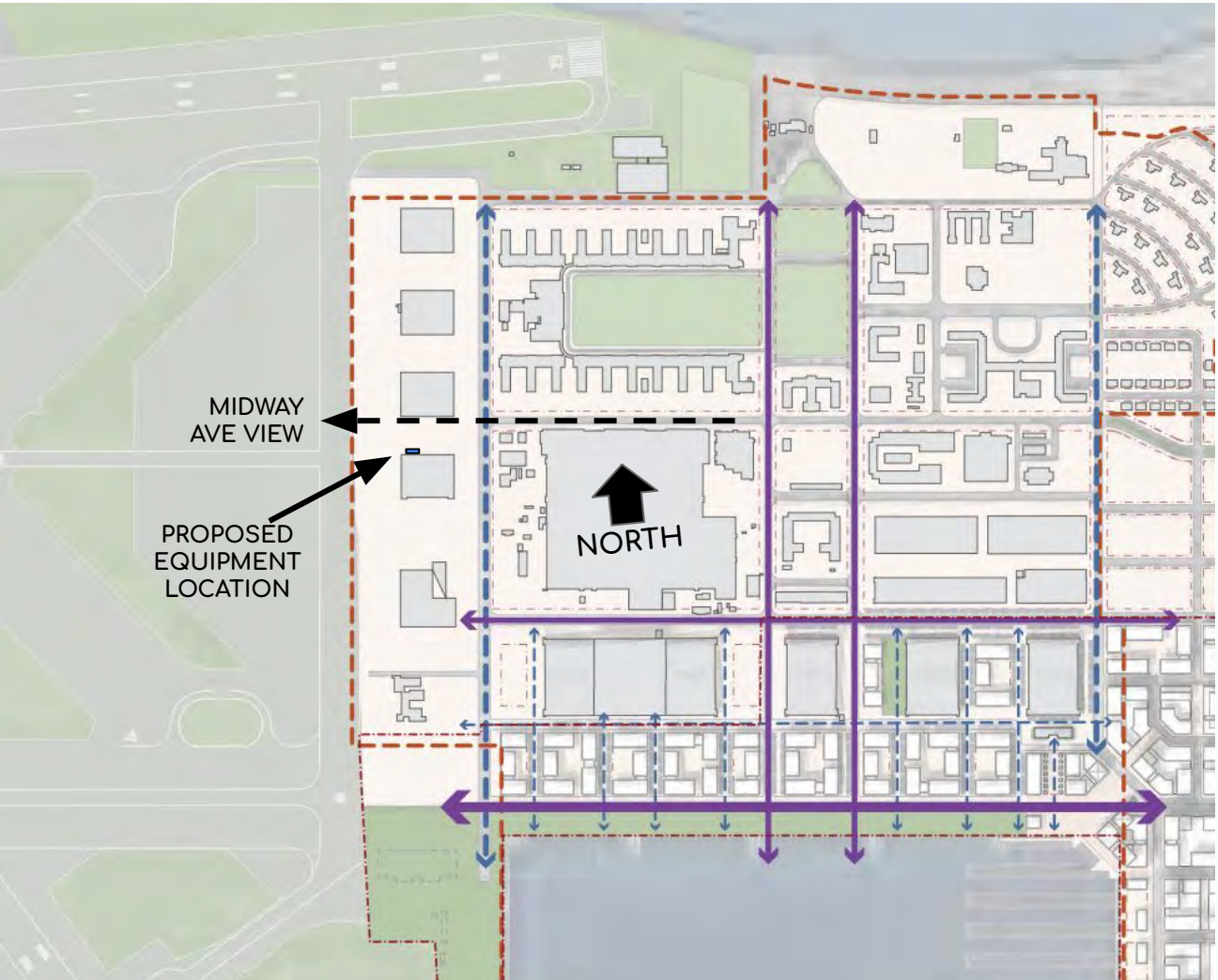
The hydropower industry can be slow to embrace change, but Natel is successfully pushing the needle on sustainable practices across the industry... Natel is doing critical work to help keep the existing hydro fleet online while also improving fish passage and power generation.

If we are going to ensure a sustainable, clean, and secure electric system in North America, hydropower must be part of the solution. Natel Energy's continued ability to bring innovative solutions to the industry through the expansion of their test facility will support a stronger, greener, energy future for all of us.

- **Malcolm Woolf, President & CEO**  
**The National Hydropower Association**



IMAGE SOURCE: CITY OF ALAMEDA, ALAMEDA POINT PRECISE PLAN



















Current View



View w/ Expansion

