1. Introduction

This document describes Natel Energy's outdoor operations and plans at 2401 Monarch Street (Building 23), in particular with regard to Natel's test equipment located along the north lot of the property as shown in Figure 1. Natel Energy seeks a Use Permit for the continued operation, maintenance, and expansion (as described herein) of these vital elements to Natel's innovation and business.

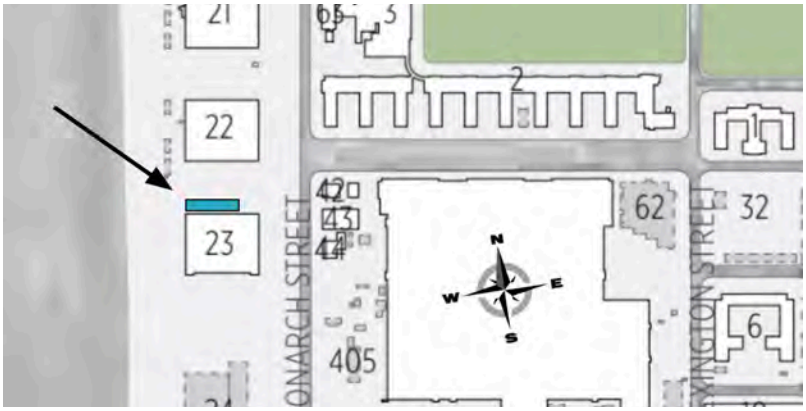

Figure 1: location of the outdoor test equipment that is the main subject of this Use Permit application. (overlay on original figure from the Alameda Point Precise Plan 2014)

1.1 Contents

Exhibit 1
Item 5-A, April 22, 2024
Planning Board Meeting

2. General Descriptions

2.1. Natel Energy

Natel Energy is an innovative clean tech company focused on safe fish passage through hydraulic turbines. Hydro turbines are a critical part of our state and nation's electrical grid by providing stable, on-demand renewable power; however, hydro projects have historically been impactful socially and environmentally. Natel's work to create and demonstrate high performance fish-safe turbine designs is building momentum within the industry and environmental regulatory agencies in the US and abroad. Natel's unique strengths include our local engineering team as well as our turbine test equipment, which allows for industry-leading fish safety and turbine performance testing.

Natel Energy has been a proud member of the Alameda Point community for 14 years, having been located during this timespan at Building 19, Building 400A, and finally Building 23.

2.2. 2401 Monarch Street

Natel Energy leases the Alameda Point Building 23 at 2401 Monarch St from 2401 Monarch LLC. Originally leased by Natel from the City in 2015, Natel worked with a commercial real estate development firm to purchase the building from the City in 2018 and finance an initial set of upgrades to the building.

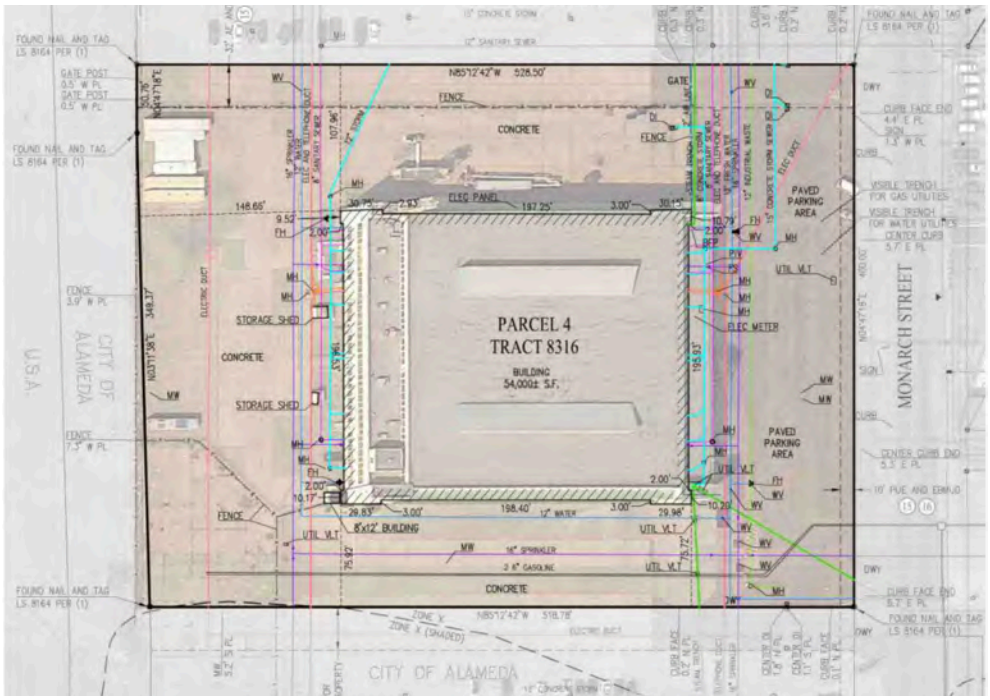

Figure 2: Building 23 property lines. Excerpt from 2018 A.L.T.A. / N.S.P.S. Land Title Survey, 2401 Monarch Street, also included as an appendix to this document.

Building 23 consists of ~40,000 sq ft of open hangar floor mixed use space and 20,000 sq ft of office space.

3. Facility Usage

3.1. Indoor Usage

The indoor space at Building 23 has multiple uses. Those include approximately 20,000 sqft of office space, a small machine shop for producing R&D test components, and open hangar floor space used for assembly, testing, and warehousing of components and back-stock. Some pallet racking is installed for storage, and a rolling A-frame gantry crane is utilized in the northeast corner of the hangar floor for equipment assembly.

At this time, Natel utilizes about half of the indoor space, primarily on the east side of the building. The remainder is subleased out to R&D tenants to help offset Natel's rent. The most recent subtenant was Sunfolding, a solar energy technology company (Sunfolding has unfortunately recently shut down, and Natel is in discussions with potential replacement tenants that align well with the City's targeted business sectors of Clean Tech / Green Tech / High Tech).

3.2. Outdoor Usage

Outdoor space on the 2401 Monarch Street property is used primarily for three uses: parking, staging and equipment laydown, and R&D activities. The latter is further broken down into temporary outdoor assembly of equipment too large or otherwise impractical to arrange indoors; and the operation of hydro turbine testing and test support equipment.

A portion of the property is enclosed by fencing, as indicated by Figure 3. An easement for the City is maintained on the north portion of the property to allow for access to the natural reserve area on the tarmac.

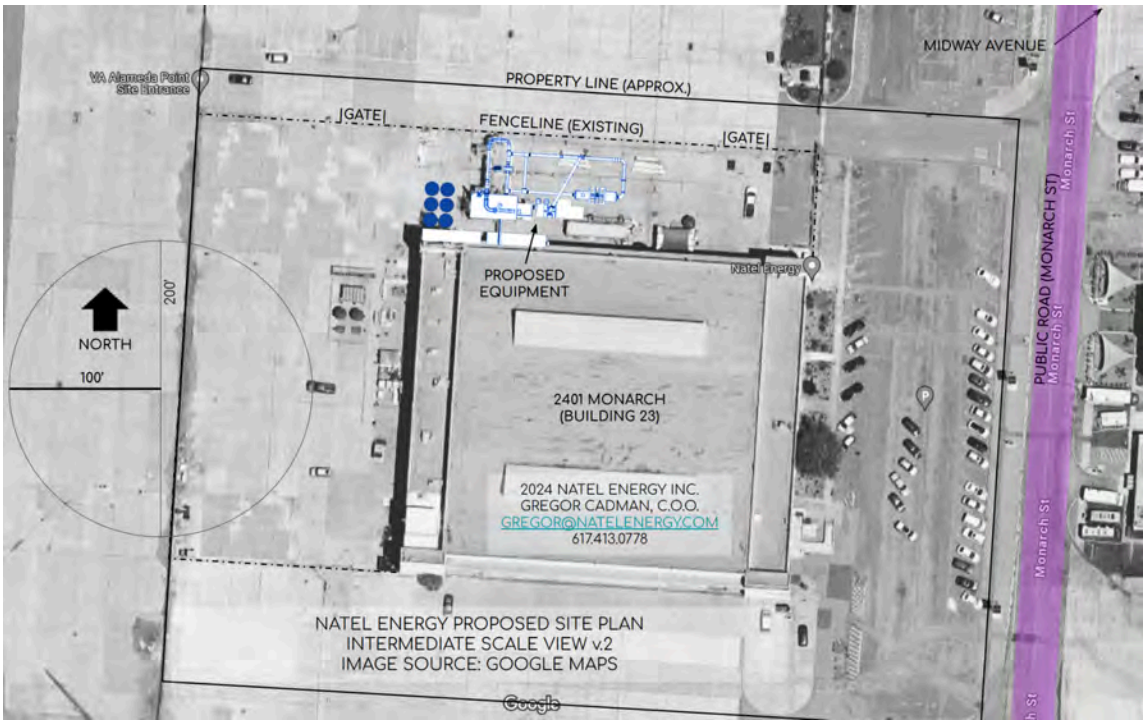

Figure 3: proposed site plan overlaid on Google Maps imagery

The east side of the property is used almost exclusively for parking. There is some additional parking on the west side of the building. The majority of our shipping and receiving takes place through the hangar doors on the south side of the building. Natel has taken steps to improve the front appearance of the building, such as the landscaping and regular maintenance of the planted area along the eastern facade. Although away from the Monarch Street sidewalk, this is a popular pedestrian area for people visiting our neighboring establishments along "Spirits Alley" and Natel has had success in deterring littering by keeping this area clean and attractive.

Outdoor recycling and waste containers are located on the north side of the property, at a gate that is easily accessible by removal services. Also on the north side of the building, a set of hydraulic test equipment is arranged, as described below. Natel's turbine testing equipment is located outdoors for the following reasons:

1. Required footprint. The total space for the equipment described in Section 4 would require over 50% of the enclosed R&D space in Building 23, preventing the usage of the space for other needs (assembly, smaller R&D testing equipment, storage, and subleases to offset rent costs).
2. Required overhead access and height. Occasionally, mobile crane services are required for the installation or removal of test turbines and other components from the test systems. The height of the test equipment, dictated by the required size of the test stand and the inability to excavate, would leave very little clearance under the building rafters - insufficient for lifting without an expensive ceiling mounted gantry crane.

3. Water management. Building 23 has poor drainage, and at times during operations some water is inadvertently spilled (for example, a seal fails and develops a leak, etc). If inside, managing flooding around this equipment and protecting other items on the building floor would be difficult. (It should be noted that the water in question is fresh municipal supply water and is not exposed to oils or other contaminants. Clean water is necessary for Natel to be able to safely test fish and keep them healthy.)

Natel is unable to locate any outdoor test equipment to the west or south of the building, due to limitations imposed by the USFWS Biological Opinion. In this document, Zone 1 abuts the west and south faces of Building 23 (figure reproduced below) and prohibits the installation of structures exceeding 4 feet in height. With the east side of the lot constructed for parking, this constraint leaves the north lot of Building 23 as the only outdoor space usable for Natel's test equipment.

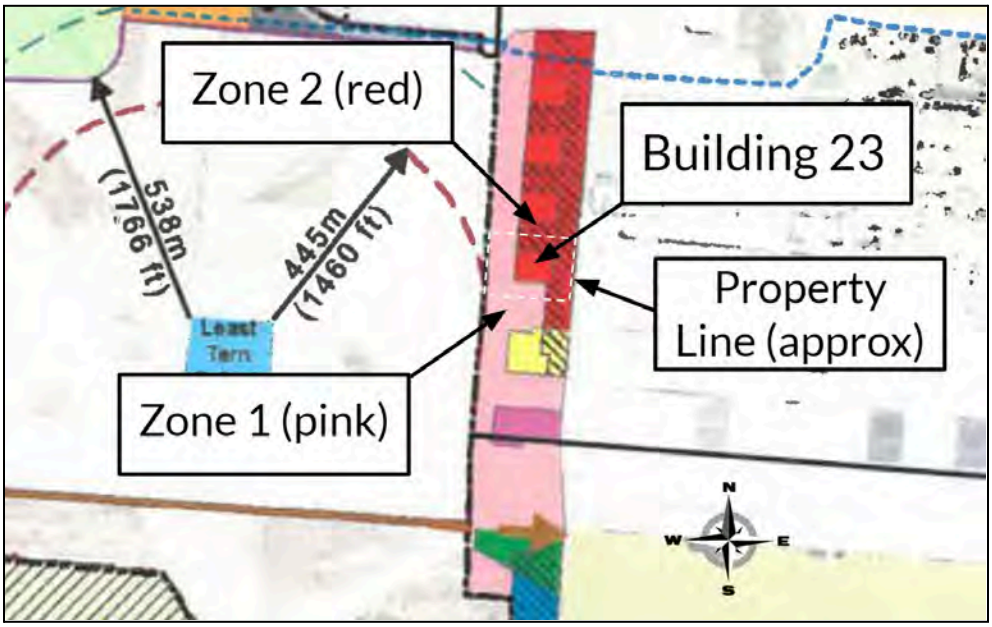

Figure 4: a partial reproduction of Fig. 1 from the USFWS Biological Opinion with overlay labels illustrating the zone designations around Building 23. The north portion of Building 23's lot is the only suitable outdoor space for Natel's test equipment.

Natel has already been active in cleaning up the eastern and northern facing fence lines, and this effort will continue through the end of 2023 and into early 2024. The majority of storage along these fence lines will be removed by a combination of recycling / scrapping and the relocation of important items to the west side of the lot. Some equipment and parts, primarily piping and structural elements, will occasionally need to be staged and assembled in the north lot especially as Natel goes through the process of expanding the large test loop in 2024, as described under Outdoor Equipment. The open space in the north lot will continue to be used for occasional temporary staging and assembly of equipment too large or otherwise impractical for indoor work.

The west side of the property, which Building 23 largely obstructs from public view, is used for gated parking and an employee picnic area. This area will not have any structures taller than 4 feet, in accordance with the USFWS Biological Opinion Zone 1 restrictions. This area will be used for staging and laydown of components and assemblies as needed, to minimize the visual intrusion into the north portion of the lot, with care taken to ensure these items to not exceed the USFWS height limitation.

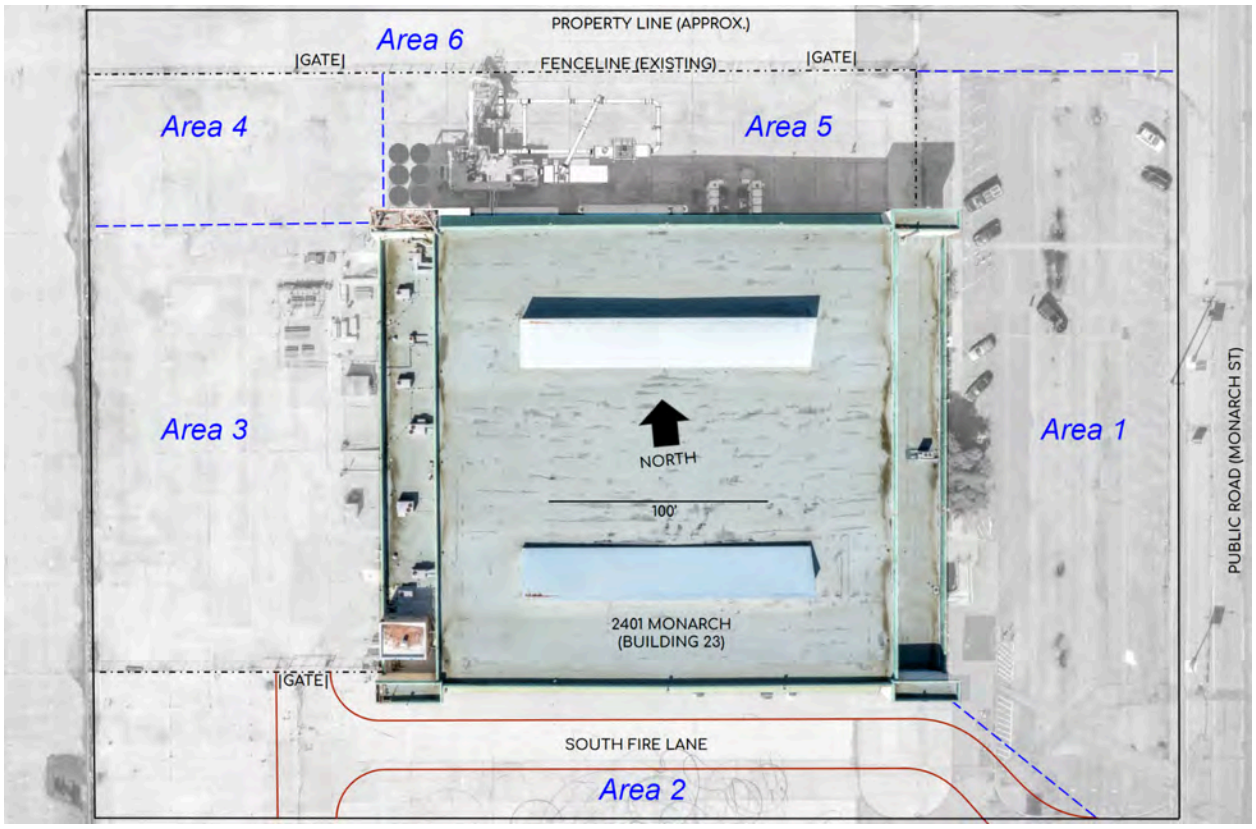

Figure 5: Lot Use Areas associated with Table 1.

Lot Area	Boundaries	Usage
1 (East)	East and south property lines; fire lane; north curb	Parking, entryways, and existing facade & landscaping along the east building wall.
2 (South)	South and west property lines; fire lane to east; existing fence to north	No structures over 4’ per USFWS Zone 1. Kept clear for access (fire, shipping & receiving). Parking permitted west of the fire lane - this is a popular sunset viewpoint for the public.
3 (West)	West property line; south fence; north extension of northern building edge	No structures over 4’ per USFWS Zone 1. Used for intermittent staging, laydown, and R&D testing - all items placed in Area 3 shall be under 4’ in height. A picnic area, also conforming to height restrictions, is included in the northwest portion of Area 3.

4 (North-west)	Northwest corner not part of Areas 3, 5, or 6	No structures over 4' per USFWS Zone 1. Similar usage as Area 3 except additional laydown + staging is avoided to maximize opacity of the north portion of the property.
5 (North, fenced)	North and east fence; west extension of western building edge	Operations area. Equipment as detailed in section 4 of this application. Positions of these equipment are as shown in the above figure, with the majority of components positioned adjacent to the northern wall of the building with the exception of the large scale hydraulic test facility, as discussed below. This area is also used for: occasional assembly and laydown of in-process equipment, vehicular access and parking along the north wall, and dumpsters for City access. Required outdoor storage of propane canisters is included per code adjacent to the north building wall. Additional storage in this area, except temporary needs, will be avoided. See also Figure 6 and Table 2.
6 (North, unfenced)	North of existing (extended) fenceline to north property line	Existing easement, kept clear for public and city access.

Table 1: Lot Area usage proposed.

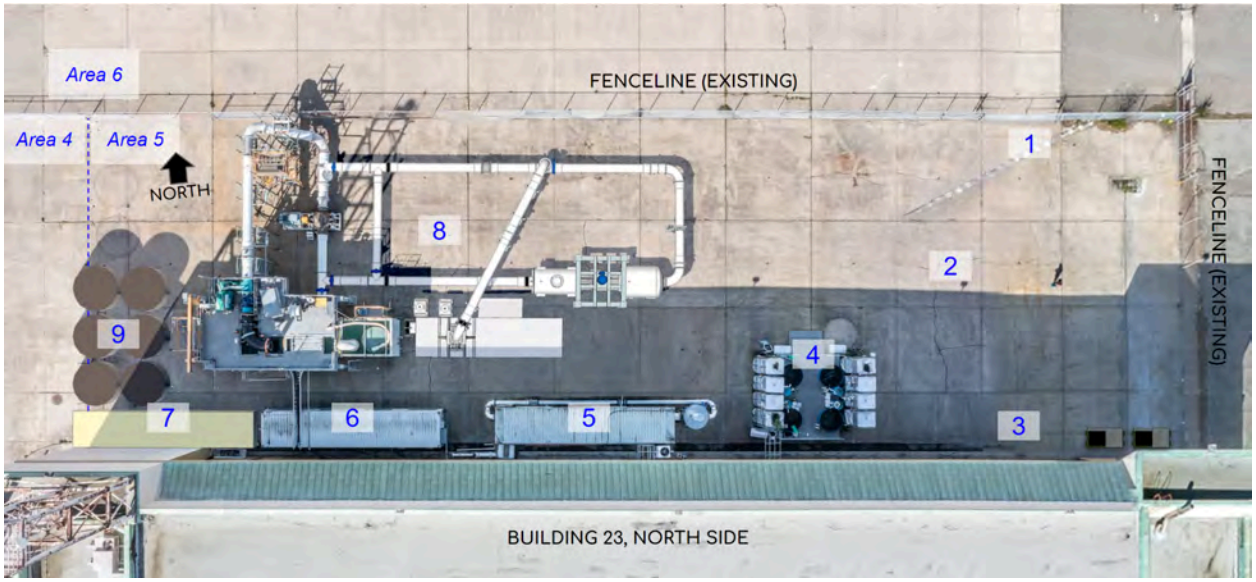

Figure 6: detailed site plan for operations area (Area 5), corresponding with Table 2.

Area 5 Item	Description
1	Entry gate with waste stream access
2	Vehicle access, general use temporary staging (when possible, Natel will preferentially stage items indoors or in Area 3)
3	Outdoor propane storage, parking / EV charging, dumpsters up

	along building wall
4	Recirculating Aquaculture System (see Section 4)
5	Smaller scale hydraulic test facility (see Section 4)
6	Control and power container for large scale hydraulic test facility
7	Air compressor housing
8	Large scale hydraulic test facility (see Section 4)
9	Water storage tanks (See Section 4). These non-permanent drums will be placed as unobtrusively as possible while respecting USFWS Zone 1 boundaries and maintaining minimum clearances for access.

Table 2: detailed proposed usage of Area 5

3.3. Outdoor Usage: Test Equipment Summary

On the north side of the property Natel operates two scale model hydraulic test facilities, one smaller and one larger, as well as an outdoor fish holding setup. This combination of equipment is a centerpiece of Natel's work and makes Natel Energy unique in the global hydro industry as the only site where scale model turbine performance and fish passage can both be studied. These capabilities are critical to Natel's ability to innovate, deliver, and grow. In fact, only one other scale turbine performance test facility exists at all in the U.S., and it is owned by a German multinational technology company.

Natel is proud to be able to deliver cutting edge R&D services to the hydro industry here in Alameda. The U.S. Department of Energy's Water Power Technologies Office has awarded Natel Energy multiple grants to advance turbine and fish safety science using this facility, and Natel regularly collaborates with scientific partners such as UC Davis's Department of Wildlife, Fish, and Conservation Biology and the Pacific Northwest National Laboratory's Bio-Acoustics and Flow Laboratory. Natel has published multiple peer-reviewed journal articles and presented work at numerous scientific and industry conferences, establishing our company as the global leader in hydro turbine fish safety.

Figure 7: Natel's test equipment is regularly visited by local, state, national, and international parties as a highlight of Alameda innovation and clean tech. Two recent examples from 2023 are (left) Dr. Geri Richmond, DOE Under Secretary for Science and Innovation; and (right) the Consul General of Japan in San Francisco along with Rod Hirsch (U.S. Commercial Service) and Julie Yim (Alameda County).

4. Outdoor Equipment Descriptions

4.1. Recirculating Aquaculture System

Natel's outdoor aquaculture system is used to hold various fish species Natel uses when studying turbine fish safety. This setup, essentially a large fish tank, uses biofiltration to limit the amount of water exchange required to avoid ammonia toxicity. In other words, the RAS (Recirculating Aquaculture System) design reduces water usage load to conserve water resources; and when water exchange is unavoidable, we've partnered with the Alameda-based REAP Climate Center where they utilize the nitrogen-rich water in their native landscapes and vegetable gardens. The total capacity of this aquaculture system is approximately 6,400 gallons.

Figure 8: Natel's recirculating aquaculture system (i.e., fish holding tanks)

Natel conducts turbine passage testing with a variety of fish species and life stages under different operating conditions to understand the physical limits of safe turbine passage for all applications. Working with live fish and monitoring their response to turbine passage is a key part of Natel's fish-safe turbine development process. After extensive computer modeling and computational fluid dynamics testing, the use of fish in scientific research remains an important step in the design of the most fish-safe high-performance turbines in the world. The humane treatment of all fish used for hydropower turbine testing is vital, both ethically and scientifically. Our team collaborates with biologists, ecologists, and fish passage engineers around the world to design experiments and disseminate the findings in scientific literature.

Our researchers are strong advocates of animal welfare and view their work with fish as a privilege. We take our responsibility for the ethical treatment of fish in our research very seriously and abide by all rules and regulations dictated by the American Fisheries Society's Guideline for Use of Fishes in Research. Furthermore, we ensure compliance with the National Institutes of Health Office of Laboratory Animal Welfare and their Public Health Service Policy on Humane Care on Use of Laboratory Animals. Natel ensures that all species held at our facility are either local and non-invasive, or are obtained under a permit from the California Department of Fish and Wildlife.

4.2. Smaller Scale Hydraulic Test Facility

The small scale hydraulic test facility (a.k.a. the "miniloop") consists of a small freshwater reservoir, pump, turbine, piping and controls infrastructure. A small transparent flume is also integrated. This piece of equipment is used for rapid prototyping

of test methods and turbine equipment. It is semi-modular and may be rearranged to incorporate various equipment, but it is primarily housed within a 40 ft shipping container with some external piping and components.

Figure 9: Natel's smaller scale hydraulic test setup

4.3. Larger Scale Hydraulic Test Facility

The larger scale hydraulic test facility (a.k.a. the "big loop") currently consists of a 21,000 gallon freshwater reservoir, pump, turbine, piping and controls / power electronics infrastructure. It is here that Natel is able to simulate the various head and flow conditions that form the operating envelope of fish safe turbine designs. This allows the testing of hydraulic efficiency of different turbine geometries and configurations, as well as the passage safety for the various species of fish that are expected to encounter the turbine at field installations around the world.

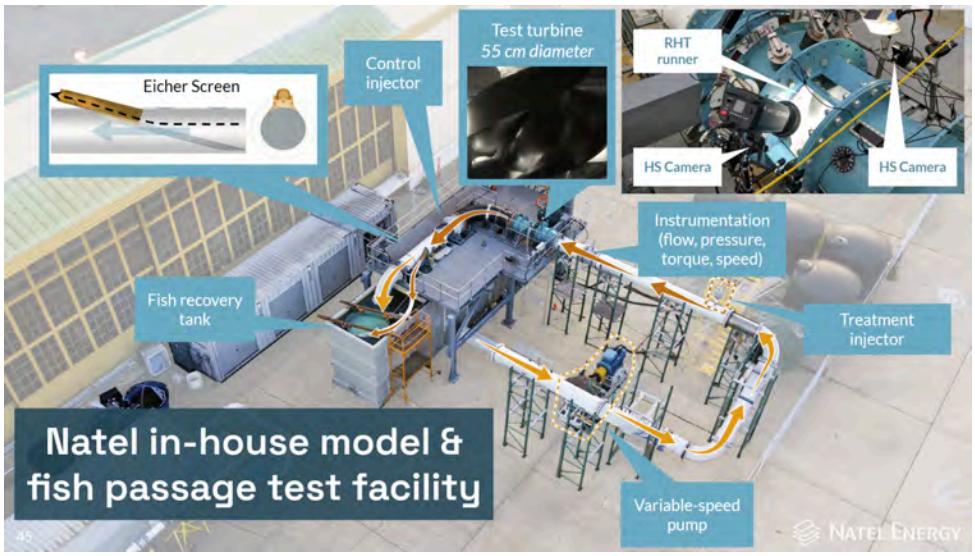

Figure 10: labeled components of the Natel turbine test facility

The equipment, pictured above, also includes some supporting water storage tanks (large black drums) that allow for the test system to be emptied and refilled when needed without unnecessarily wasting water. The position of these storage tanks will be to the west of the scale hydraulic test facility, obscuring them as much from public view behind the equipment while continuing to respect the boundaries of the USFWS Zone 1 (see Figure 6). These tanks are easily moved if necessary for Public Works sub-slab access.

Figure 11: Occasionally, large lifting equipment is required for the placement of test components into the hydraulic test facility. This is one of the reasons why this equipment is located outdoors.

Natel seeks to expand this pumped turbine test equipment in 2024, approximately doubling its current footprint. This expansion will be made eastward, and is planned so Natel can deliver the increasing quality and type of turbine testing that our business is demanding. Some team growth is also associated with this increased capability, and Natel is currently recruiting engineers and technicians to strengthen our team.

The facility expansion plans are illustrated below, overlaid on a photo of the existing equipment. A second pumped test "loop" is added to the east, and a second ~20,000 gallon reservoir is added adjacent to the existing tank. One new overhead piping run is planned. Following the issuance of the required Use Permit, Natel will work with the City for any additional electrical or structural permits that may be required for this equipment. The equipment is expanding eastward rather than westward for two primary reasons, both identified by Alameda's Planning Division when discussing the initial version of this application: (1) to avoid having the installed equipment overlap an existing storm drain line which the Department of Public Works requires the ability to access in the future; and (2) to comply with the Zone 1 height restrictions of the USFWS Biological Opinion.

Figure 12: Top-down overlay of the planned test equipment expansion. The image orientation is north down.

Figure 13: Computer generated overlay of the planned equipment expansion. View is facing south.

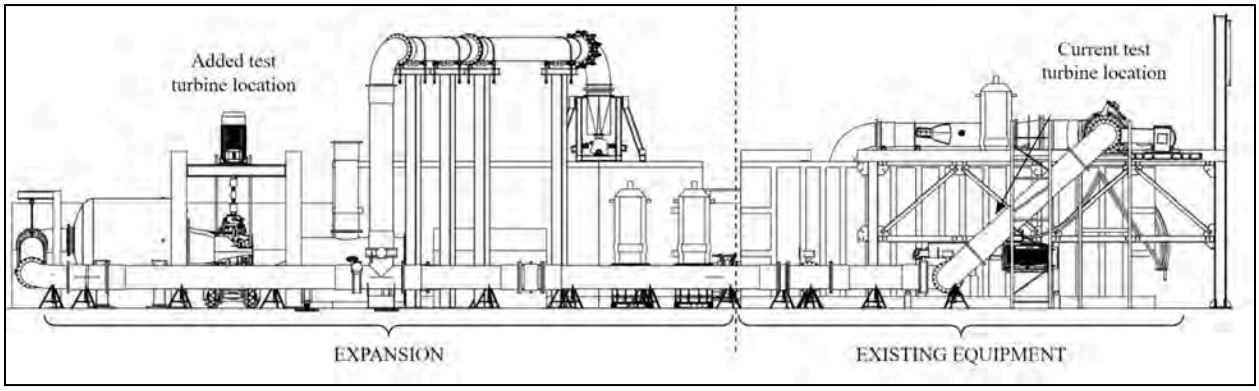

Figure 14: side view, facing south, of the existing and additional equipment.

Figure 15: 'front' view rendering, facing west as if on Monarch Street.

All equipment footings, where required, will be baseplates grouted and anchored into the existing 5-6" concrete slab. No excavation will occur, and ground loading will be kept below maximums defined by geotechnical studies.

4.4. Other Outdoor Equipment

In an effort to reduce the noise inside the building, Natel has an outfitted container to be located in the north lot with air compressors that provide a constant supply of compressed air throughout the building. This container has been specially outfitted with sound dampening materials so that the noise is contained within the container. Decibel readings just outside the container fall well below the requirements for commercial spaces.

5. Outdoor Equipment Effects Discussion

This section discusses the effects from Natel outdoor equipment on community considerations (visibility and noise) as well as those related to the California least tern colony (lighting and predator mitigation). With regard to least tern colony requirements, Building 23 itself is located in the area marked "Zone 2" per Fig. 1 (reproduced as Figure 4 herein) of the 2012 FWS Biological Opinion on the Proposed Naval Air Station Alameda Disposal and Reuse Project ("Biological Opinion"), with the west and south portions of the outdoor lot area falling into "Zone 1".

5.1. Visibility and Sightlines

Natel's outdoor equipment is visible to the public from portions of Monarch Street, Midway Avenue, and the buildings directly to the north and east of Building 23. The reasons for locating test equipment outside are discussed in Section 3.2. Natel has placed this equipment along the north portion of the property for the following reasons:

1. The USFWS Biological Opinion's Zone 1 restrictions on structures taller than 4' in elevation prohibits the presence of the test equipment in the west or south areas of the property.
2. Ease of access between the building interior and exterior by forklift, personnel, and electrical and water supplies. The north and south side hangar doors provide this access.
3. Space: there isn't enough room on the south side of the lot for the equipment. Furthermore, the south side supports shipping and receiving, sometimes very large weldments that would be very difficult to maneuver around the test equipment were it to be located on the south side. Finally, the south side is left open for required fire lane access.
4. Solar shading: by placing on the north side of the building, heating of the test equipment is minimized (most importantly for the water, which must be at stable temperatures in particular for fish health). This minimizes energy consumption and or extensive additional shading structures which would be needed elsewhere.
5. Security: The north side of the building has a long established fence as shown previously in Figure 3 that provides a level of security and safety for our valuable and sensitive equipment. Natel's property on the south side of the building is unfenced and provides public access to unobstructed views of the western skyline.

As shown in Figure 16 below, Natel's equipment is not located in a view corridor highlighted for preservation by the Alameda Point reuse plan. Additionally, it is not located on the sightline down West Midway Avenue, nor is it visible from the Building 24 lot which at the time of establishing the outdoor equipment location was a popular commercial destination (Rock Wall Winery) and may become so again. Finally, Natel considers the visible obstruction created by the equipment to be consistent with other commercial and R&D examples in Alameda Point, such as Faction Brewery's grain silo and Saildrone's testing and handling equipment.

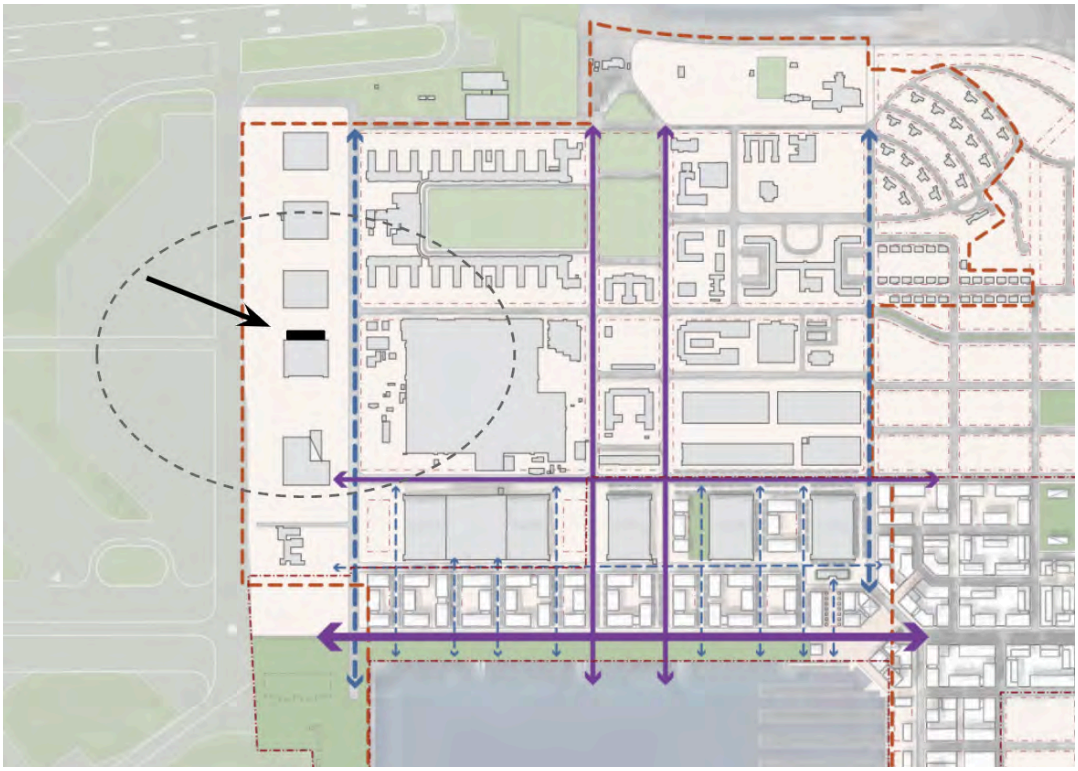

Figure 16: Alameda Point view corridor preservation diagram, with view corridors illustrated in purple and blue. Natel's equipment is located in the black rectangle. (original figure source: Alameda Point Precise Plan - July 2014)

See section 4.3 for additional figures and descriptions of the portion of Natel's test equipment which is planned for expansion. It should be noted that the planned addition will create one elevated pipeline that is 6 ft higher in elevation than the existing upper pipeline of the large loop system; this will to an extent affect the appearance of the equipment when viewed from the east. All the diagrams of the equipment expansion illustrate this additional pipeline. This elevated pipeline is required by the international standard that Natel Energy is testing in accordance with (IEC 60193) for the in-situ calibration of our flow measurement device.

5.2. Noise

The aquaculture system and small loop produce only small amounts of local noise, not discernible outside of Natel property. The large test loop does create sound when operating in certain conditions. These tests are intermittent and infrequent, on a schedule dictated by our testing needs. Natel typically conducts a test every month or two; in 2023, 7 tests with an average duration of 2 days were conducted. Testing primarily takes place during normal working hours of 8:00 AM to 6:00 PM, occasionally starting earlier and/or ending by 7:00 PM. Very rarely does the need arise to test over the weekend, though it is not out of the question if there is a tight timeline to meet for a customer. Overall, testing (and thus the generation of sound) occurs approximately 1.5% of the year.

On November 29, 2023, Natel Energy measured operational sound levels on public property immediately adjacent to the Building 23 lot at Monarch Street. The larger scale hydraulic test loop was brought up to its maximum speed / highest noise level operating point and a BAFX3608 Digital Sound Level Meter was used to assess noise level on a dBA scale. At the Monarch Street sidewalk due east of Natel's equipment, a sound level of 58 dBA was measured; and closer, on Natel property at the east fenceline, 61 dBA. (Ambient measured at around 55 dBA.) Importantly, the planned expansion with additional equipment will not add to the operating noise levels; the existing components are the ones that will produce the most sound, so these measurements are applicable to future planned use.

Natel identified two possible sources of threshold noise level specifications to reference, as follows:

1. California Government Code, Title 7 Planning and Land Use, Division 1, Chapter 3, Article 5 Authority for and Scope of General Plans, 65302(f) requires a noise element to be considered in planning, which is detailed in the OPR Appendix D Noise Element Guidelines. Fig. 2 shows acceptable thresholds for 24-hour average dBA noise levels, given as 70 dBA for commercial and 75 dBA for industrial.
2. Alameda, California Code of Ordinances, Chapter IV, Article II, 4-10 Noise Control: Table II for Commercial Properties gives a daytime continuous noise threshold of 65dBA, with 70dBA allowable for 30 minutes out of any given 1 hour period.

The sound levels measured fall below the thresholds dictated by State and City ordinances. Additionally it is noted that over the years of conducting tests with this equipment there has not (to Natel's knowledge) been any complaint or concern about noise levels. The fact that this equipment is operated so infrequently and during weekday business hours (as opposed to weekends) is also beneficial.

5.3. Lighting

The USFWS Biological Opinion renders avoidance and minimization measures to limit the effects of lighting on least terns. The relevant language from Section 7 of the Biological Opinion is reproduced below:

"Lighting associated with building security and other lighting needs or requirements throughout the NWT, Civic Core Area, and Marina Area shall be allowed as long as the cumulative increase in ambient nighttime light levels, from VA and City sources as defined in 7b, does not exceed 10 percent above the ambient nighttime light levels in these areas, prior to any VA or City development on transferred/conveyed lands, as defined in Silverman and Light (2011)."

Security lights are installed around the perimeter of the building roof line, which automatically turn on and off. These lights primarily represent the extent of outdoor

facility lighting, beyond the light coming through building windows. Occasionally a work area is set up outside where local lights are used for illumination - an example of this type of lighting is shown below.

Figure 17: an example of work outside at dusk, showing the security lighting at the top of the building as well as some local lighting used for testing. Temporary rain shelters for test equipment and staff are also shown.

Natel doesn't have the ability to measure illumination intensity, however the roofline security lights have been in place since before Natel Energy began occupying the building so they are likely to have been part of a City led survey at some point in the past.

5.4. Predator Mitigation

Building 23's western lot, and portions of the northern and southern areas, are within line of sight to the California least tern colony on the tarmac, about 1,500 ft away. The USFWS Biological Opinion renders instructions for different regions of the Alameda Point land transfer for the purposes of controlling avian and other predators that might impact the least terns. For Zone 2 which includes the northern portion of the property where the outdoor equipment in question is located,, the relevant language from the Biological Opinion Section 9.b is reproduced as follows:

"Zones 2 (Red) and 3 (Yellow): Any new buildings constructed or extensions of existing buildings shall not exceed the height of the existing buildings… Light posts in this area 20 feet or greater in height shall contain anti-perching devices, which will be maintained in perpetuity."

Natel's outdoor scale model test facility, both as built and as planned with the expansion, does not exceed 25 ft in height. This equipment is located directly adjacent to the northwest corner of Building 23, where the building height varies between 35 and 44 ft,

and a tower structure on top of the building extends to approximately 82 ft. It is clear that Natel's outdoor equipment, both as built and as intended to expand, does not exceed the height of existing adjacent buildings and structures.

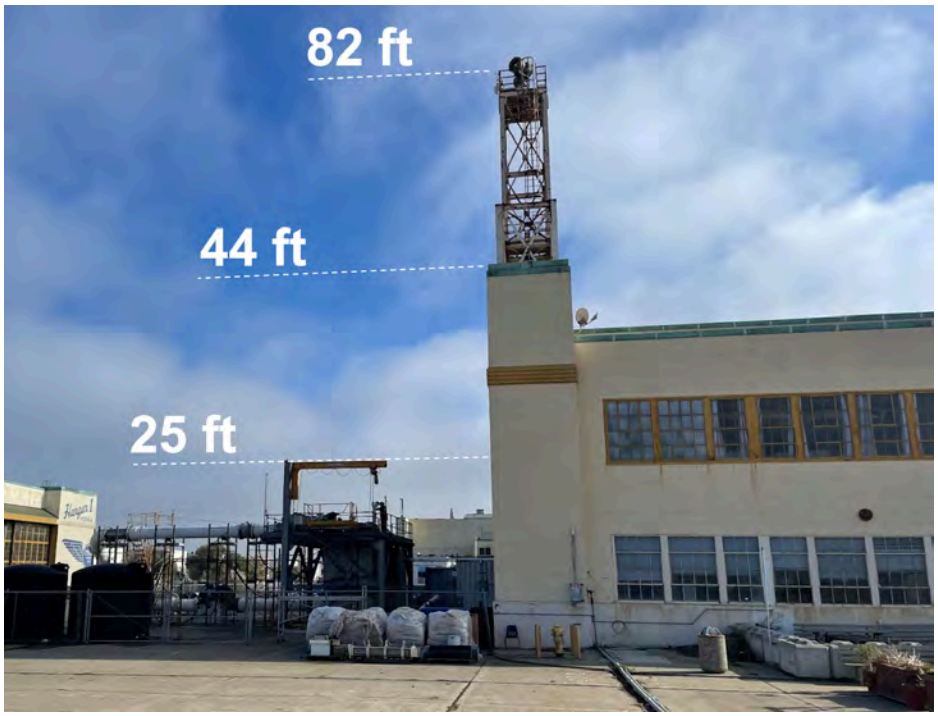

Figure 18: photograph showing the relative heights of Natel's outdoor test equipment (25 ft max, unchanged with expansion) and adjacent Building 23 roof elevation and tower.

Natel test equipment does not include any light posts, but there are other structural posts that do reach 25 ft in height. If the City recommends doing so, Natel would be open to installing anti-perching spikes on the portions of the equipment that exceed 20 ft in height, although local raptors will continue to have an easy and much higher perch on the adjacent building.

5.5. Fire Lane Access

The south side of the building is reserved for fire access as required by the Alameda Fire Department. Planned usage of the north and west areas of the Building 23 lot will not obstruct this fire lane (see Figure 5). The fire lane will have a minimum unobstructed width of 26 feet parallel to the south side of the building, not less than 15 feet and not greater than 30 feet from the building. This fire lane is not yet marked (no such fire lane was marked when the property was purchased from the City); upon approval of this Use Permit, Natel will mark this lane in accordance with Alameda City fire code.

6. Schedule

Natel Energy is scheduled to begin the expansion of the large loop facility in earnest starting Q3 of 2024, with work continuing into Q4. Leading up to this point, Natel will have begun purchasing and receiving major components starting mid Q2 into Q3. This timeline is driven by Natel's leading commercial contract at this time, which requires the usage of the expanded test facility; this contract has been awarded and is in the final steps of negotiation..This particular contract is pivotal for Natel's growth and success, and in fact will also be pivotal for the hydro industry by representing a major step forward in fish-safe technology adoption. Once awarded it will be of the utmost importance to the company to remain on schedule. Natel deeply appreciates the timely assistance of the city in managing this process and thereby minimizing risk to our company.