

**The Headwaters Fund  
Grant Fund Application Coversheet**

Date of application: January 15, 2020

Organization Name: Humboldt Bay Harbor, Recreation, and Conservation District

Director/CEO: Larry Oetker, Executive Director

Contact Person Name and Title: same as above

Contact Phone: (707) 443-0801 Contact Email: loetker@humboldt看bay.org

Contact Address: 601 Startare Drive, Eureka CA 95501

Total current year organizational budget: ~\$5 Million # of FTE employees: 8

Summarize the organization's mission (in the space provided):

Humboldt County tidelands, bays, and estuaries have unique and diverse management needs. The Humboldt Bay Harbor, Recreation and Conservation District was created in 1973 to address these needs. The District oversees planned development of the harbors and ports within the District, as well as protection of the natural resources located here. It is a countywide agency with permit jurisdiction over all tide, submerged and other lands granted to the District, including all of Humboldt Bay. District operations focus on three primary areas: commercial port uses, recreational uses, and conservation. These operations are managed by a staff of employees and are governed by an elected board of commissioners consisting of five members. Utilization of port resources is a critical part of the District's mission.

Project title: Redwood Marine Terminal I (RMT I) Site and Environmental Review for Multipurpose Marine Terminal Renovations and Expansion to Accommodate the Redwood Coast Offshore Wind Project

Please provide a less than 250 word summary of your project which answers the following questions: How will your project lead to improving the local economy and increasing the quality of life for local residents? What exactly are you going to do and for whom? Why is it necessary? What will be accomplished? How will you accomplish this?

According to recently released federal Bureau of Energy Management report and many industry experts, California's most viable site for final assembly of offshore turbines is the Port of Humboldt Bay. This port has deep water access with no bridge restrictions and hundreds of acres of empty, available quayside land at the site of pulp and lumber mills that were abandoned when the region's forest industry collapsed in the 1990s. However, the port itself would need extensive rebuilding and upgrading to allow heavy cranes to assemble the floating platforms. Port facilities are vital for the success of the emerging offshore wind energy industry in Humboldt County. Redwood Marine Terminal I (RMT I) is ideally positioned to be an offshore wind support facility and deployment port and has the potential to make Humboldt County the west coast energy hub. Headwaters Grant funds are needed now to build upon offshore wind energy related work that is currently being completed by Schatz Energy Research Center and others. Headwaters funding will be used to conduct environmental assessments and technical studies necessary to support RMT I dock construction. This work will be used to leverage additional public and private investments. Offshore wind energy use will initially create jobs with the construction

and rebuilding of the dock and will create long-term jobs by attracting a new industry to the area. Offshore wind energy generation is the first industry that has the potential to fully utilize CDI lands since the decline of the forest products industry.

Amount requested: \$65,000    Total project cost: \$250,000

Grant timeline:    Period covered:    June 2020 to June 2021

Total match amount: \$185,000 Match amount as % of project budget 74%  
(Required 50% match for implementation, 25% for planning or technical assistance)

Cash match: at least \$30,000 In-kind match: up to \$155,000 Cash match as % of budget 12%  
(Required: 25% for implementation, 12% for planning or technical assistance)

Number of new FTE jobs created, if funded: TBD

Number of FTE jobs retained, if funded (jobs that would otherwise be eliminated): n/a

Type of project:        ☒ Planning        ☐ Implementation

Geographic focus of project: Samoa Peninsula

Number of permanent, long term, private sector jobs to be created: TBD - It is estimated that if California were to install 18 GW of offshore wind capacity by 2045, the state could support over 17,500 jobs in the offshore wind and related industries; we think Humboldt County can position itself to get a large portion of those jobs

**Which Industry is your project working with (check off all that apply):**

- ☐ Diversified Health Care
- ☐ Specialty Food, Flowers and Beverages
- ☒ Building and Systems Construction
- ☐ Investment Support Services
- ☒ Management and Innovation Services
- ☒ Niche Manufacturing
- ☐ Tourism
- ☐ Forest Products
- ☐ Arts and Culture
- ☐ Alternative Agriculture

**Strategy being employed to promote economic development (check off all that apply):**

- ☒ Supporting development of pre-permitted commercial space
- ☐ Reducing regulatory bottlenecks for business retention or creation
- ☒ Supporting economic development infrastructure
- ☐ Developing new strategies for economic development
- ☒ Providing access to external markets or plugs the economic leaks
- ☐ Retaining and growing existing businesses
- ☒ Providing workforce training

- ☐ Increasing the number of new businesses
- ☒ Leveraging future funding or projects
- ☐ Reducing poverty by helping people to develop business skills
- ☐ Other (describe):

Are any of the following components required, and if so are they in place already? (check off in left column if required, then check of "yes" or "no" for if they are in place already)

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> Building permits    | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| <input checked="" type="checkbox"/> Market research     | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| <input type="checkbox"/> Legal review                   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            |
| <input checked="" type="checkbox"/> Regulatory approval | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| <input checked="" type="checkbox"/> Consultants hired   | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| <input checked="" type="checkbox"/> Staff hired         | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |

**Humboldt County Headwaters Grant Application: NARRATIVE RESPONSES**  
**HBHRC – RMT I Site and Environmental Review**

**1)** The Humboldt Bay Harbor, Recreation, and Conservation District (District) continues to prepare the District's RMT I Terminal on the Samoa Peninsula for the re-construction of the existing multipurpose dock, with offshore wind energy as the anchor tenant. The existing 7-acre wooden dock is significantly past its useful life and needs to be completely reconstructed in order to modernize the port to prepare for modern maritime industries. Several Federal, State, and private industry studies have identified Humboldt Bay and the RMT I terminal specifically as the preferred west coast port to develop offshore wind economic cluster. Humboldt Bay is ideally positioned as the closest offshore wind turbine assembly facility and deployment port to the proposed Bureau of Ocean Energy Management (BOEM) north coast lease areas. Once developed, the facilities on Humboldt Bay can be utilized to construct/ assemble offshore wind turbines and associated components to tow them to other offshore locations on the west coast. Coastal Humboldt County has world-class offshore wind resources and the Samoa Peninsula has under-utilized Coastal Dependent Industrial (CDI) lands that are perfectly situated to support the operations necessary to assemble, deploy, repair and maintain wind energy turbines. In addition, Humboldt Bay has deep draft shipping channels that can accommodate the large marine vessels carrying wind turbine components. According to recently released federal BOEM report and many industry experts, California's most viable site for final assembly of offshore turbines is the Port of Humboldt Bay. This port has deep water access with no bridge restrictions and hundreds of acres of empty, available quayside land at the site of pulp and lumber mills that were abandoned when the region's forest industry collapsed in the 1990s. However, the port itself would need extensive rebuilding and upgrading, as well as dredging of shipping lanes to allow heavy cranes to assemble the floating platforms.

The deployment of offshore wind turbine is possible only with port infrastructure and land-based operations. During the last year substantial progress has been made towards understanding local offshore wind energy and port related infrastructure needs. Two examples of recent port infrastructure improvements to support renewable energy are the Port of Brest, France and the Port of New Bedford, Massachusetts. The Port of Brest is currently constructing a new marine renewable energy hub which includes upgrades including a new heavy loading quay and work area to assemble wind turbines. The Port of New Bedford is currently undertaking a major commercial makeover: deepening channels and berths as well as repairing and enlarging maritime terminals and wharves to accommodate the needs of the growing shipping and emerging offshore wind industries. The offshore wind energy industry has made substantial progress at these ports. The Harbor District can learn from these recent projects and adapt to local conditions. RMT I redevelopment is vital for the offshore wind energy industry and could turn Humboldt County into a West Coast Energy Hub.

The District is seeking Headwaters grant funding to complement the \$623,000 already awarded by the Ocean Protection Council to the Schatz Energy Research Center (SERC) for North Coast Offshore Wind Energy Feasibility Analysis. Humboldt State University's SERC is finalizing their Feasibility Analysis which will inform the proposed RMT I dock renovations and expansion project to support offshore wind energy. The SERC project is conducting an in-depth study and analysis of the electrical, environmental, port infrastructure, stakeholder, and policy issues and needs associated with offshore wind development in the Humboldt Bay region. In addition, they will utilize best scientific and engineering practices and recognized experts to identify issues and

propose paths forward to utilize an immense renewable energy resource while protecting the marine and coastal environments. In order to make this project a reality, we cannot lose momentum, and the District intends to utilize the Headwaters grant funds to pick up where the SERC project stops and focus our efforts on project readiness by preparing the California Environmental Quality Act (CEQA) technical reports and preparing the Coastal Development Permit (CDP) application for the proposed RMT I terminal reconstruction.

The Harbor District recently released an RFP for companies to develop RMT I as an offshore wind terminal and manufacturing facility. Proposals were received and the Harbor District is currently in the review process. The goal is to leverage the Headwaters funds to secure private investment into the CEQA and Coastal Development Permits and then have these private investors leverage \$15 - \$30 million federal MARAD grants to construct a \$50- \$100 million new multipurpose terminal. One of the next steps is to conduct site specific technical/environmental studies to inform and update a 1994 Environmental Impact Report and 60% complete engineering drawings for demolishing and rebuilding the RMT I dock. The proposed facility consisted of a concrete sheet pile bulkhead wall outlining the existing dock, in-filling of 6.5 acres of intertidal lands behind the bulkhead within the footprint of the existing wooden dock and the construction of 1,800 lineal feet of concrete decked, concrete pile supported wharf along the Samoa Channel.

This project involves early and ongoing consultation and coordination with stakeholders including fisherman and the tribes. While conversations with local fishermen, tribes, environmentalists, labor unions and government partners are ongoing, the community's overall response has been supportive. Several Board of Supervisors and public members recently commented that offshore wind is where the County should be putting its efforts. The revitalization of RMT I will allow the community to realize benefits from this unique industrial site with marine access. Offshore wind energy generation is the first industry that has the capacity to fully utilize the Coastal Dependent Industrial (CDI) lands on the Samoa Peninsula since the decline of the forest products industry. This project is identified in Prosperity! 2018 and we believe this use of grant funds will help fulfill the Headwaters Fund mission to improve our local economy.

**2)** The Headwaters Grant Funds will allow the District to begin the critical initial work of transforming RMT I into an energy port. The existing wood piling 7-acre dock will need to be removed and a new modern heavy weight dock permitted and constructed. Funds will be used to conduct site assessments and update environmental studies for the purpose of permitting the RMT I facility for construction and modification to support offshore wind energy operations. Initial investment in readying RMT I for redevelopment and construction to accommodate offshore wind is crucial to the future success of this project and will facilitate capital investments through anticipated public-private partnerships.

Renewable wind energy offers one of the most promising employment opportunities for Humboldt County in decades. Offshore wind energy use will initially create jobs with the construction and rebuilding of the dock and will create long-term jobs by attracting a new industry to the area. There are also co-benefits linked to state and local actions and investments supporting offshore wind farm development based in Humboldt Bay. Co-benefits refer to the positive effects that a policy or measure aimed at one objective might have on other objectives; another term for co-benefits is ancillary benefits.<sup>1</sup> Samoa Peninsula has enough CDI lands

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<sup>1</sup> Hackett, Steven. Co-Benefits Linked to State and Local Actions and Investments Supporting Offshore Wind Farm Development. Draft Dec. 13, 2019

available to accommodate and become the West Coast wind energy hub with assembly, metal fabrication/welding, anchor construction, and other industries expanding or locating in our area to support this new industry. Once deployed the offshore wind structures will need to be maintained and repaired by a highly skilled workforce.

In addition to grid reliability, offshore wind offers a number of other benefits, including the opportunity to develop a new industry from the ground up. A recent report estimated that if California were to install 18 GW of offshore wind capacity by 2045, the state could support over 17,500 jobs in the offshore wind industry, related downstream industries, and surrounding economy in that year.<sup>2</sup> Local and state agencies can guide industry growth with a cluster-based approach: creating market certainty, training workers, and facilitating connections, among other strategies. Offshore wind is projected to bring a new surge in investment and employment to many of the country's working harbors. For example, every dollar invested in the construction of a 352 MW wind farm off the coast of New Jersey is expected to generate \$1.83, resulting in a total in-state economic benefit of over \$700 million.<sup>3</sup>

The offshore wind industry offers a diverse array of employment opportunities that caters to different education and experience levels at every phase of development. For example, the industry could employ lawyers to negotiate legal contracts and bids, metal workers to manufacture foundation components, sales representatives to facilitate the sale of manufactured parts, environmental specialists to ensure that project development is minimally invasive towards coastal ecosystems, and engineers to conduct regular operations and maintenance. In addition to supporting a wide array of jobs, offshore wind represents an excellent opportunity for California to build an inclusive economy that offers accessible, fair-wage jobs to its residents.<sup>4</sup> Offshore wind could bring much-needed economic benefits to local communities across California, including Humboldt County. However, investments in critical infrastructure (e.g., ports and roads) will be required.<sup>5</sup>

Examples of co-benefits from local or state actions and investments linked to offshore wind farm development are briefly discussed below. Regular and timely use of the Port of Humboldt Bay by vessels transporting wind farm components for in-port assembly, as well as for ongoing wind farm operations, maintenance, and repair, may depend upon maintaining design depths and widths for the bay entrance and federal channels, additional dredging for terminal access and anchoring sites, and repairing and maintaining the north and south entrance jetties.<sup>6</sup> Such investments would generate co-benefits to other vessel operators utilizing the Port of Humboldt Bay, including commercial and recreational fishermen, charter operators, recreational boaters, transient vessels, cruise ship operators, freight-hauling vessels, and the Coast Guard. These co-benefits may take the form of safer entry, a lower frequency of entrance channel closure due to shoaling and hazardous sea states, and accommodation of deeper-draft vessels such as freighters and cruise ships over the bar and through transit channels within Humboldt Bay.<sup>7</sup>

Humboldt Bay is the only deep-water port in the state north of San Francisco, with substantial port infrastructure and power interconnection capacity and the absence of national security restrictions associated with some other California coastal areas. Harbor improvements are needed

<sup>2</sup> The California Offshore Wind Project: A Vision for Industry Growth. American Jobs Project. <http://americanjobsproject.us/>

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Hackett, Steven. Co-Benefits Linked to State and Local Actions and Investments Supporting Offshore Wind Farm Development. Draft Dec. 13, 2019.

<sup>7</sup> Ibid.

to support offshore wind development, and these improvements will also benefit stakeholders like the local fishing industry. Three key factors that give the Port of Humboldt Bay a strategic advantage over other west coast ports is the bay has no overhead bridges or power lines which restricts the height of the structure; we have a large amount of vacant coastal dependent industrial land; and our port is within 30 miles of the proposed offshore deployment sites.

**3)** Progress towards readying the RMT I site for renovation and expansion is on-going and will be measured by completing site analysis which may include geotechnical analysis, eelgrass surveys, preliminary engineering, and CEQA/NEPA environmental review documents. As mentioned previously, the proposed site and environmental assessments will build upon information currently being prepared by others through the SERC Feasibility Analysis project related to port infrastructure needs, potential environmental impacts, and stakeholder outreach. Site surveys will be conducted as necessary to update the previously prepared environmental impact report that evaluated very similar RMT I dock replacement.

**4)** Grant funds will complement the extensive work already underway by SERC, RCEA, and private companies to advance the development of offshore wind power generation. RCEA with support from a consortium of private companies submitted a lease application to BOEM and have been working with members of the community since 2017 to explore and develop the offshore wind potential of Humboldt County. SERC is working with other project partners to research numerous aspects of offshore wind energy generation. The District is focused on the port infrastructure development and will keep momentum going by taking port and land-based concept layouts developed as part of SERC Task 4 to the next phase of permitting and environmental review. See Attachment D for more information.

**5)** Offshore wind energy use will initially create jobs with the construction and rebuilding of the dock and will create long-term jobs by attracting a new industry to the area. According to one study, the four phases of offshore wind development offer a variety of job opportunities that cater to different education and experience levels. The phases of offshore wind development include: development & project management, manufacturing & construction, installation & commissioning, operations & maintenance. As noted above, it is estimated that if California were to install 18 GW of offshore wind capacity by 2045, the state could support over 17,500 jobs in the offshore wind and related industries; we think Humboldt County can position itself to get a large portion of those jobs. See Attachment E for more information.

According to RCEA, the plan is to start with a wind-energy generation facility consisting of 10 to 15 wind turbines located 20 to 30 miles offshore, with the potential to scale up. Initially the wind turbine components would be shipped to the North Coast and the need for local maintenance and repair crews would create some jobs. If the wind farm proves successful and scales up, there is the potential for the large-scale creation of well-paying jobs locally. This area faces workforce challenges, with a relatively small construction industry and few workers with industrial skills or marine qualifications. The Humboldt County's 2018 Workforce Development Report found near full employment in all sectors and widespread difficulty in hiring and retaining workers. Existing apprenticeship programs for the construction trades and for Merchant Mariner/Seaman could be expanded to address the offshore wind industry's needs on the North Coast, perhaps in collaboration with the College of the Redwoods, CSU Maritime Academy, and the region's tribal governments.

- 6)** Offshore wind energy presents enormous potential to help meet California's 100% clean electricity target. The wind resource beyond Humboldt Bay is among the best in the nation. Coastal communities have the most to lose from climate change induced sea level rise and hosting offshore wind installations is one way these communities can take action to help mitigate climate change impacts and add resiliency to their electricity supply. Furthermore, off-shore wind offers a higher plant capacity factor than other renewable energy sources being developed in the state, including solar and onshore wind. High capacity factor wind sites like Humboldt can complement solar by providing more consistent power flow to the grid while providing added resiliency through diversification of the state's renewable energy generation portfolio.
- 7)** This project directly addresses a central solution to Humboldt's economic stagnation and community decline – facilitating the transfer of the County's economy from a resource extraction-based economy to an economy based on a more diverse and sustainable set of industry clusters that include elements of an emerging alternative energy economy. This matches community values with economic development. It is crucial that this transformation can occur while maintaining the timber, fishing, and agricultural industries. The intentional planned reuse of underutilized properties allows for an economic transformation within our existing community, giving us the potential to keep jobs here and attract more jobs, increasing local wealth and our overall economic health and stability. The utilization of Humboldt County's offshore wind energy resource is crucial to the future health of our local economy and improving quality of life for Humboldt County residents. This project will lead to the production of local energy that will allow the County to realize energy independence. This project will also help the State achieve its GHG emission reduction goals.
- 8)** Harbor District staff have extensive grant and project management experience. The District currently owns and operates RMT I and RMT II and continually works to improve and expand facilities and services that support the District's mission. The District recently released an RFP for companies to develop and manage an offshore wind terminal and manufacturing facility at RMT I. Proposals were received and the Harbor District is currently in the review process. The ability of the District to accommodate the offshore wind industry is key to investment from multi-national offshore wind power companies. This project requires extensive support from multiple agencies from the Federal to the local level, but a strong team with multi-faceted experience and stakeholder support will allow for project success. Project partners for the overall offshore wind development project include SERC and RCEA who has formed a public-private partnership to explore developing offshore wind energy.
- 9)** Grant funds will be used to hire expertise in biology, geology, and other technical expertise as necessary. In addition, the District has competent in-house staff that are able to write-up reports and compile relevant information. Consultants that will conduct the environmental site assessment and associated surveys include local biologists, geologists and benthic specialists. Planwest Partners serves as the District Planner and has provided contract planning services to the Harbor District since 2014. Planwest staff prepare and process permits for Harbor infrastructure improvements and dredging projects; participate in Harbor District grant funded projects; and support District staff and Commission meetings. Planwest and Harbor District Staff also have the experience and expertise to compile and prepare CEQA and NEPA documents.
- 10)** Headwaters Grant funding will be acknowledged throughout the project and will be specifically listed on every report that is prepared with Headwaters fund assistance. All project partners will be informed of the generosity and support from the Headwaters fund.





**Redwood Marine Terminal I**  
Offshore Wind Terminal Project Area

Map Created by:  
**PLANWEST**  
PARTNERS, INC.   
Date: 1/14/2020

**Humboldt County Headwaters Grant Application: ATTACHMENTS**  
**HBHRCD – RMT I Site and Environmental Review**

**PROJECT BUDGET:**

Redwood Marine Terminal I Site and Environmental Review for Multipurpose Marine Terminal Renovations and Expansion to Accommodate the Redwood Coast Offshore Wind Project

<b>Project Expense Item</b>	<b>Total cost</b>	<b>Amount requested from Headwaters Grant Fund</b>	<b>Amount from Matching Funds</b>	<b>Source of Matching Funds</b>
Consultant & Professional Fees (technical studies/ environmental consultants)	\$250,000	\$65,000	\$ 55,000  \$ 65,000  \$ 65,000	- HBHRCD funds (Cash and In-kind) - EDA or CDBG Grant (not yet secured) - Private Funders (not yet secured)
Total Project Cost	\$ 250,000	\$65,000	\$ 185,000	See above

The District is seeking \$65,000 in Headwaters grant funding to complement the \$623,000 in funding already received from the Ocean Protection Council (OPC), awarded to the Schatz Energy Research Center (SERC) for North Coast Off-Shore Wind Feasibility Analysis (project summary below). The District issued a request for proposals for a private developer to invest in the development and operation of the proposed new RMT I dock facility (Attachment B). This public private partnership would leverage funds to apply for federal Maritime Administration (MARAD) port infrastructure development grant funds for infrastructure improvements. MARAD port infrastructure grants fund up to 80% of project costs and require a 20% (or larger) non-federal match. One possible source of local matching funds is this grant request through the Headwaters Fund.

**Federal Maritime Administration (MARAD) Port Infrastructure Development Grant Funds**

The following summarizes the MARAD port infrastructure development grant program. In February 2019 Congress authorized \$292.73 million for Port Infrastructure Development Program grants to provide funds for a broad range of improvements within, or around, coastal seaports to improve safety, reliability, or efficiency. The \$292.73 million appropriated for the grant program remains available until expended. Of these funds, about \$93 million are earmarked for 15 US seaports with the most shipping volume as measured by total equivalent units (TEUs), while the remaining \$200 million is available for infrastructure improvements at all US coastal seaports (<https://www.maritime.dot.gov/PIDPgrants>). Examples of seaport related-projects eligible for MARAD port infrastructure development grants include, but are not limited to, the following:

- Port gate improvements, including digital innovations to improve flow;
- Road improvements both within and connecting to the port;
- Rail improvements both within and connecting to the port;
- Berth improvements including docks, wharves, piers and dredging incidental to improvement project;

- Cargo moving equipment used shoreside (all equipment must be Buy American Act compliant);
- Facilities necessary to improve cargo transport including silos, elevators, conveyors, container terminals, Ro/Ro facilities including parking garages necessary for intermodal freight transfer, warehouses including refrigerated facilities, bunkering facilities for oil or gas products, lay-down areas, transit sheds, and other such facilities;
- Utilities necessary for safe operations including lighting, stormwater, and other such improvements that are incidental to a larger infrastructure project; and
- Port related intelligent transportation system hardware and software – all technologies used to promote efficient port movements including routing and communications for vessels, trucks, and rail cargo movements as well as flow through processing for import/export requirements, storage and tracking, and asset/equipment management.

### **North Coast Offshore Wind Feasibility Analysis Project Summary**

Humboldt State University's Schatz Energy Research Center is conducting an in-depth study and analysis of the electrical, environmental, coastal infrastructure, stakeholder, and policy issues and needs associated with offshore wind development in the Humboldt Bay region. In addition, they will utilize best scientific and engineering practices and recognized experts to identify issues and propose paths forward to utilize an immense renewable energy resource while protecting the marine and coastal environments. Specifically, the study will consist of the following seven modules/research areas (OPC funds support modules 3, 4, 5, and 6) (Scope of Work included as Attachment D):

1. Offshore Wind Generation and Load Compatibility Assessment;
2. Electricity Grid Constraints, Mitigation Measures, and Associated Costs;
3. Likely and Potential Environmental Impacts;
4. Coastal Infrastructure Modifications and their Impact on Ocean Environment, Climate Resiliency, and Local Stakeholders;
5. Analysis of Stakeholder Benefits and Impacts;
6. Policy Evaluation and Recommendations; and
7. Military Mission Compatibility.

The above project also received funding from BOEM, PG&E and the Governor's Office of Planning and Research (OPR). See <http://schatzcenter.org/wind/> for more information about SERC offshore wind energy projects.

### **PROJECT TIMELINE:**

The Project timeline included with this application lays out the work completed under this grant would conclude in June 2021 (or within approximately one year from date of grant contract).

<b>Timeframe</b>	<b>Milestone</b>
June 2020 – June 2021	CEQA technical reports. Define site requirements, site surveys, environmental assessments marine docking assessment, public consultation and awareness*
Feb. 2021 – June 2021	Refine CEQA Project Description*

\*Headwaters grant funded pre-construction activities.

The table below shows how the port development fits into the overall offshore wind energy project timeline. Port development planning, permitting, and construction needs to happen now to be ready for the offshore wind industry.

Offshore Wind Energy Project Timeline																							
2020				2021				2022				2023				2024				2025			
BOEM Lease Award - Feb. 2021				Off-shore Environ. Review												Port & Turbine Assembly							
Port Development Timeline																							
				Permitting & Environ. Review								Terminal Re-construction and Upland Development								Terminal Operating			
Technical Studies				EIR & CDP & Other Permits																			

**HBHRCD Board of Commissioners:**

Larry Doss - District 1  
 Greg Dale - District 2  
 Stephen Kullmann - District 3  
 Richard Marks - District 4  
 Patrick Higgins - District 5

**HBHRCD FY 2019-2020 Operating Budget:**

See Attachment A for details.

**IRS tax status:**

HBHRCD is a California Special District and as such IRS tax status certification is not required.

**Support letters & MOUs:**

- Schatz Energy Research Center
- Greater Eureka Chamber of Commerce
- MOU and Intent to Cooperate Between HBHRCD and Redwood Coast Energy Partners

**Attachments:**

Attachment A - HBHRCD FY 2019-2020 Budget  
 Attachment B - HBHRCD RFP for Lease of RMT I  
 Attachment C - HBHRCD Offshore Wind Presentation  
 Attachment D - SERC North Coast Offshore Wind Feasibility Analysis Project Scope of Work  
 Attachment E – Executive Summary Excerpt from The California Wind Project: A Vision for Industry Growth. (Full report available at <http://americanjobsproject.us/>)

Additional referenced reports available by request.





Date: January 13, 2020

To: Humboldt County Headwaters Fund

Subject: Support for Humboldt Bay Harbor Recreation and Conservation District Grant Application:  
Redwood Marine Terminal I – Site and Environmental Review for Multipurpose Marine  
Terminal Renovations and Expansion

To whom it may concern,

Schatz Energy Research Center supports the Humboldt Bay Harbor, Recreation and Conservation District Headwaters grant application for furthering RMT I site and environmental review to accommodate offshore renewable energy support operations.

Humboldt Bay, including RMT I, is ideally positioned as the closest offshore wind turbine assembly facility and deployment port to the proposed Bureau of Ocean Energy Management (BOEM) Northern California Offshore Wind Call Area. Coastal Humboldt County has world-class offshore wind resources, and the Samoa Peninsula has under-utilized Coastal Dependent Industrial (CDI) lands that are situated to support the operations necessary to assemble, deploy, repair and maintain wind energy turbines. In addition, Humboldt Bay has deep draft shipping channels that can accommodate the large marine vessels carrying wind turbine components.

Located on the campus of Humboldt State University, the Schatz Center's mission is to promote the use of clean and renewable energy, with specialization in biomass energy systems, renewable energy technologies, energy efficiency, and clean transportation. The Center is directed by three engineering professors and employs over 20 professional staff, including four licensed engineers in mechanical, civil and electrical engineering. The Schatz Center's work includes research and development, technology demonstration, project development, energy systems analysis, and education and training. The Center has demonstrated technical expertise across a range of renewable energy systems, including offshore wind.

The grant funding from Headwaters would complement the North Coast Offshore Wind Feasibility Analysis, currently being led by the Schatz Center. This analysis covers many aspects of offshore wind, including a port infrastructure assessment, engineering, policy, economics, environmental, and shared ocean resources. We expect to have interim reports on the port and navigation infrastructure completed in early 2020; the complete feasibility analysis will wrap up in the summer.

To support the Harbor District, the Schatz Center will provide our port infrastructure assessment reports to the Harbor District to use in their planning. If you have further questions, please contact me at [arne.jacobson@humboldt.edu](mailto:arne.jacobson@humboldt.edu) or (707) 826-4345.

Sincerely,

A handwritten signature in black ink, appearing to be "Arne Jacobson".

Arne Jacobson  
Director, Schatz Energy Research Center



DATE: March 26, 2019

TO: Humboldt County Headwaters Fund

RE: Support for Humboldt Bay Harbor Recreation and Conservation District Grant Application:  
Renewable Energy Report and Redwood Marine Terminal I

The Greater Eureka Chamber of Commerce Board of Directors supports the District proposal to expand Redwood Marine Terminal I to a Multi-Purpose berth and land-based facility to accommodate renewable energy support operations. RMT I would continue to be District owned and maintained for these expanded operations and be the permit holder. The renewable energy functions are planned to be permitted and operational in 2022-2023. The District must start planning now and needs grant funding for initial site assessments and environmental studies. We believe this use of grant funds will help fulfill the Headwaters Fund mission to improve our local economy.

The Harbor District is committed to renewable energy development. They currently have the largest solar array in Humboldt County, at Redwood Marine Terminal II, on the Samoa Peninsula. Recent wind technology developments, primarily floating wind turbine platforms, have made areas offshore of Humboldt County viable for wind energy generation. The Federal Bureau of Ocean Energy Management intends to lease offshore tracks starting in 2020. The District intends to make RMT I a land-based facility to support offshore equipment assembly and maintenance, which are vital to offshore energy generation.

RMT I is ideally positioned as the closest offshore wind turbine assembly facility and deployment port to the proposed north coast lease areas. Coastal Humboldt County has world-class offshore wind resources and the Samoa Peninsula has under-utilized Coastal Dependent Industrial (CDI) lands that are perfectly situated for redevelopment. In addition, Humboldt Bay has deep draft shipping channels that can accommodate barges carrying wind turbine components.

The grant funding from Headwaters would complement grant funding already received from the Ocean Protection Council, awarded to the Schatz Energy Research Center for Humboldt Bay Off-Shore Wind Feasibility Analysis. Off-shore wind offers a higher plant capacity factor than other renewable energy sources being developed in the state, including solar and onshore wind. This capacity translates into good paying jobs in Humboldt County.

Please grant funds to Humboldt Bay Harbor Recreation and Conservation District for this important work.

Sincerely,



Donna Wright  
Executive Director

**MEMORANDUM OF UNDERSTANDING AND INTENT TO COOPERATE<sup>1</sup>**  
**BETWEEN**  
**HUMBOLDT BAY HARBOR RECREATION & CONSERVATION DISTRICT**  
**AND**  
**REDWOOD COAST OFFSHORE WIND PROJECT PARTNERS**

This Memorandum is entered into this      day of March 2019 (“Effective Date”), by and among the following (each a “Party” and together the “Parties”):

1. **HUMBOLDT BAY HARBOR RECREATION & CONSERVATION DISTRICT** (“HARBOR DISTRICT”), a California public entity located in Eureka, Humboldt County California; and
2. **PRINCIPLE POWER, INC.** (“PPI”), a company incorporated in the state of Nevada, USA, (Entity No. E0706352007-5) having an office at 5901 Christie Ave., Suite 303, Emeryville, CA, USA 94608 that provides technology, engineering and development services for deep-water offshore wind energy projects (“PPI”); and
3. **AKER SOLUTIONS INC.** (“ASI”), a company organized and existing under the laws of the State of Delaware whose principal office is at 3010 Briarpark Dr., 77042 Houston, TX; and
4. **EDPR OFFSHORE NORTH AMERICA LLC** (“EDPR”), a limited liability company organized under the laws of the State of Delaware, whose principal office is at 808 Travis Street, Houston, TX 77002; and
5. **REDWOOD COAST ENERGY AUTHORITY** (“RCEA”), a California Joint Powers Authority, having an office at 633 3<sup>rd</sup> street, Eureka, CA whose members include the County of Humboldt, the Cities of Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, and Trinidad, and the Humboldt Bay Municipal Water District.

## **RECITALS**

**WHEREAS**, the Parties seek to identify and support the development of floating offshore wind energy projects off the coast of Humboldt County;

**WHEREAS**, to the knowledge of the Parties, the Port of Humboldt Bay (the “Port”) is the only deep-water port in Northern California located in Humboldt County (the “Northern Coast”) with substantial port facilities and upland infrastructure;

**WHEREAS**, the Parties made a preliminary assessment of the Port’s existing facilities through multiple site visits and believe that it has the potential to become a hub for offshore wind energy on the Northern Coast;

**WHEREAS**, while upgrades of existing facilities and/or the development of new facilities are required, the Parties believe that there are opportunities to drive potential investments and incrementally develop infrastructure capabilities for offshore wind structure fabrication, assembly, load-out and pre-commissioning activities;

**WHEREAS**, these infrastructure improvements are needed to serve the Redwood Coast Offshore Wind Project, as well as potential future offshore wind energy commercial developments in the region, which may provide an opportunity to revitalize the Port; and

**WHEREAS**, the Parties desire to collaborate with local community stakeholders to identify and address local infrastructure improvements. Such improvements are intended to be directed towards the broadest community benefit, and are expected to require skilled labor from the immediate and surrounding area.

## **AGREEMENT**

The Parties agree to cooperate and work together in good faith for the purpose of planning infrastructure improvements at the Port needed to serve the construction, installation, and operations of the Redwood Coast Offshore Wind Project (the “Project”), an approximately 100MW to 150MW floating offshore wind energy project off the coast of Humboldt County. As part of this agreement, the Parties agree to work together:



1. To reasonably cooperate with each other, and to use commercially reasonable efforts to work with other stakeholders globally, regionally, and locally to identify and assess local infrastructure improvements needed for the construction, deployment, operation, maintenance, and decommissioning of the Project's components;
2. To inform the HARBOR DISTRICT's future business plan, strategic planning effort, permitting and environmental review for port infrastructure developments required to serve the Project that will drive investments and spur economic activity in the region<sup>2</sup>;
3. To identify and evaluate any potential needs or impacts to current Port users, existing waterfront businesses, local stakeholders, and the environment associated with the Project's development, construction, operations, and decommissioning, and to take commercially reasonable steps to meet these needs and minimize these impacts;
4. To seek out and reasonably cooperate on mutually beneficial grant or public funding opportunities that are consistent with the goals of this Memorandum;
5. To work together to negotiate the main elements of future port facility leasing, purchasing, and/or other relevant agreements for the Project's construction and deployment activities, considering the price and terms that meet the needs of the Parties, their customers, members, and investors;
6. To coordinate and cooperate with state and other relevant officials in ways that advance the Project's interests;
7. To inform all other Parties in a timely fashion of relevant developments that could affect or impact the goals of this Memorandum, and;
8. To identify and reasonably address the additional relevant needs of any Party that may arise during the Project development process.

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<sup>2</sup> NTD: What does this mean? Are we reviewing and providing comments to the Harbor District's business plan?

This Memorandum does not establish a joint venture, partnership, or business unit of any kind between the Parties, nor does it necessarily create a financial obligation on behalf of either Party. Further the Memorandum does not grant or create an exclusive right to negotiate between the Parties; and either party is free to negotiate or explore similar agreements with other persons and entities.

### **CONFIDENTIALITY**

Confidentiality shall be governed specifically by Non-Disclosure Agreements between the Parties<sup>33</sup>, unless such NDAs have been superseded by a subsequent confidentiality agreement in writing between the Parties, and the California Public Records Act, Government Code section 6250 et seq.

### **GOVERNING LAW**

The laws of the State of California shall govern this Memorandum and any questions concerning its validity, construction or performance, without regard to the conflicts of laws provisions thereof. The Parties agree to submit to the non-exclusive jurisdiction of the courts in California in relation to any dispute arising out of or in connection with this Memorandum, whether based in contract, tort (including negligence) or otherwise.

### **TERM**

This Memorandum shall commence on the Effective Date and terminate on the first to occur of any of the following events: (a) the passage of two years from the Effective Date (b) the Parties mutually agree in writing to terminate this Memorandum; (c) the Parties mutually agree to supersede this Memorandum with another form of legal agreement; (d) if any Party is placed into liquidation, bankruptcy, administration, receivership or any similar process; or (e) by material breach of a Party.

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<sup>33</sup> NTD: Is there an executed NDA between the parties and Harbor District?

**IN WITNESS WHEREOF**, each Party has caused this Memorandum to be duly signed and delivered, effective as of the Effective Date.

**Humboldt Bay Harbor Recreation &  
Conservation District**

Date:

By: \_\_\_\_\_

Name: Larry Oetker

Title: Executive Director

**Principle Power, Inc.**

Date:

By: \_\_\_\_\_

Name: Joao Metelo

Title: President & CEO

**Redwood Coast Energy Authority**

Date:

By: \_\_\_\_\_

Name: Matthew Marshall

Title: Executive Director

**EDPR Offshore North America LLC**

Date:

By: \_\_\_\_\_

Name: Enrique Alvarez-Uria

Title: Manager

**Aker Solutions, Inc.**

Date:

By: \_\_\_\_\_

Name: Jonah Margulis

Title: Country Manager

**Humboldt County Headwaters Grant Application  
HBHRCD – RMT I Site and Environmental Review**

**ATTACHMENTS**

Attachment A - HBHRCD FY 2019-2020 Budget

Attachment B - HBHRCD RFP for Lease of RMT I

Attachment C - HBHRCD Offshore Wind Presentation

Attachment D - SERC North Coast Offshore Wind Feasibility Analysis Project Scope of Work

Attachment E – Executive Summary Excerpt from The California Wind Project: A Vision for Industry Growth. (Full report available at <http://americanjobsproject.us/>)

**HUMBOLDT BAY HARBOR, RECREATION  
AND CONSERVATION DISTRICT**

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**RESOLUTION NO. 2019-08**

**A RESOLUTION ADOPTING THE FINAL FISCAL YEAR 2019-2020 HUMBOLDT BAY  
HARBOR, RECREATION AND CONSERVATION DISTRICT BUDGET AND GOALS**

**WHEREAS**, the Board of Commissioners of the Humboldt Bay Harbor, Recreation, and Conservation District has prepared a draft and final annual budget pursuant to California Harbors and Navigation Code Section 6093;

**WHEREAS**, the Board of Commissioners approved the fiscal year 2019-20 draft budget in June of 2019 and scheduled and noticed a hearing for the adoption of the final budget on July 11, 2019 at 12:00 pm at the Woodley Island Meeting Room, 601 Startare Drive, Eureka, CA;

**WHEREAS**, notice of said hearing was posted on the Harbor District's website pursuant to California Harbors and Navigation Section 6093.1; and

**WHEREAS**, copies of the budget were made available on the Harbor District's website and at the District Office.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Commissioners of the Humboldt Bay Harbor, Recreation and Conservation District that the Board hereby:

1. Adopts the Final Fiscal Year 2019-20 Budget as set forth in Exhibit A and B, attached here to and by reference incorporated herein.
2. Authorizes the Executive Director to transmit the budget to the Humboldt County Board of Supervisors pursuant to California Harbors and Navigation Section 6093.3

**PASSED AND ADOPTED** by the Humboldt Bay Harbor, Recreation and Conservation District Board of Commissioners at a duly called meeting held on the 11<sup>th</sup> day of July 2019, by the following polled vote:


**AYES:** Higgins, Doss, Kullmann, Dale

**NOES:** Ø

**ABSENT:** Marks

**ATTEST:**

  
\_\_\_\_\_  
**LARRY DOSS, Secretary  
Board of Commissioners**

  
\_\_\_\_\_  
**GREG DALE, President Board  
of Commissioners**

**CERTIFICATE OF SECRETARY**

The undersigned, duly qualified and acting Secretary of the HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT, does hereby certify that the attached Resolution is a true and correct copy of RESOLUTION NO. 2019-08 entitled,

**A RESOLUTION ADOPTING THE FINAL FISCAL YEAR 2019-2020 HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT BUDGET AND GOALS**

as regularly adopted at a legally convened meeting of the Board of Commissioners of the HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT, duly held on the 11<sup>th</sup> day of July 2019; and further, that such Resolution has been fully recorded in the Journal of Proceedings in my office, and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this 11<sup>th</sup> day of July, 2019.



LARRY DOSS, Secretary  
Board of Commissioners

## EXHIBIT A

Humboldt Bay Harbor, Recreation, and Conservation District  
INCOME FY 2019 - 20 BUDGET

Account	Sub Account	General Fund	Tidelands	Woodley Island	RMT II	RMT I	Fields Landing	Shelter Cove	Grants	TOTAL
R1	Dredging									-
R1a	Dredging Surcharge			135,000			15,000			150,000
R1b	Dredging Set Aside									-
R1c	Dredging Other									-
R2	Float Replacement			65,000						65,000
R3	Harbor Surcharge			140,000						140,000
R4	Utility Surcharge			130,000	90,000		1,300			221,300
R5	Grants									-
R5a	Conservation								269,000	269,000
R5a	Recreation								204,568	204,568
R5c	Harbor								187,113	187,113
R5d	Facilities								272,000	272,000
R6	Tax Revenue									-
R6a	Property Tax	1,096,500								1,096,500
R6b	Other									-
R8	Other Income									-
R8a	Other Revenue			5,800						5,800
R8b	Late Fees/Interest	7,000	160,750	5,000			1,500			174,250
R9	Interest Income				6,200					6,200
R10	Rents									-
R10a	Slip Rents	7,000		640,000						647,000
R10b	Transient Rents			65,000						65,000
R10c	Upland Rent			169,500	700,000	80,000	147,500			1,097,000
R10d	Tideland Rent		340,000							340,000
R10e	Equipment			1,500						1,500
R10f	Storage			8,000						8,000
R10g	Work Yard			8,500						8,500
R11	Fees									-
R11a	Services Office			2,200						2,200
R11b	Late Fees/Interest	2,900		10,500	1,000	60	1,200			15,660
R11c	Miscellaneous	10,000								10,000
R11d	Fork Lift									-
R11e	Boat Launch			13,000			100			13,100
R11f	Travel Lift			500			900			1,400
R11g	Haul Out			13,500			30,000			43,500
R11h	Moorage									-
R11i	Poundage			8,500		10,853				19,353
R11j	Port	9,700		12,500						22,200
R12	Sales									-
R12a	Laundry			10,200						10,200
R12b	Retail			1,800						1,800
R13	Donations									-
R13a	Light House			60						
R13b	Sea Scouts			10						
TOTAL REVENUE		1,133,100	500,750	1,446,070	797,200	90,913	197,500	-	932,681	5,098,144
TOTAL EXPENSE		1,269,802	303,391	1,471,560	1,465,287	145,064	229,683	52,148	932,681	5,869,615
NET INCOME		(136,702)	197,359	(25,490)	(668,087)	(54,151)	(32,183)	(52,148)	-	(771,471)

## EXHIBIT B

**Humboldt Bay Harbor, Recreation, and Conservation District  
EXPENSES FY 2019-20 BUDGET**

Account	Sub Account	General Fund	Tidelands	Woodley Island	RMT II	RMT I	Fields Landing	Shelter Cove	Grants	TOTAL
<b>Personnel</b>										
E1	Salaries/Wages	385,066		213,093	203,764	47,886	43,408			893,216
E1a	Salaries/Wages PT	-		-	44,772	-	-			44,772
E2	Commissioners Fees	24,000		-	-	-	-			24,000
E3	Payroll Burden	338,686		140,667	128,823	34,379	30,934			673,488
E3a	Payroll Burden PT	-		-	5,042	-	-			5,042
<b>Materials and Services</b>										
E5	Advertising & Promotion	1,300		1,000						2,300
E6	Communications	9,750		3,600			1,500			14,850
E7	Conference & Meetings	16,000		6,000	2,500		700			25,200
E8	Dues,Subscript.,License	25,000	120		11,000					36,120
E9	Elections & Government Fees				125,000					125,000
E10	Insurance	6,000	7,700	18,000	11,500		5,540	5,148		53,888
E11	Supplies Office	18,000	1,000	4,000						23,000
E12	Supplies Maintenance	750		14,000	25,000	1,000	5,500			46,250
E13	Permits		3,500		20,000		3,500			27,000
E14	Utilities	5,000		221,500	193,500	6,200	37,600	9,500		473,300
E15	Fuel	15,750		3,800	350		2,500			22,400
E16	Accounting	41,000		8,300						49,300
E17	Legal	38,000								38,000
E18	Planning	100,000								100,000
E19	Engineering	8,500	3,500	10,000	50,000		15,000			87,000
E20	Other Professional/Outside Services		50,000	8,000	25,000		7,300	25,000		115,300
E20a	Information Technology									-
E20b	HSU Ports									-
E21	Small Tools - Protective Clothing			2,000	1,500		100			3,600
E22	Maintenance Facilities	50,000	30,000	45,600	40,900	25,000	9,000	2,500		203,000
E23	Maintenance Equipment			11,500	14,900	3,500	5,100	10,000		45,000
E24	Maintenance IT	5,000								5,000
E25	Dredging			620,000			50,000			670,000
E26	Capital Outlay			40,000	60,000	20,000	8,500			128,500
E26a	Building & Facilities									-
E26b	Equipment									-
E26c	Automotive									-
E26d	Vessels									-
E27	Rent/ Lease Payments				196,000					196,000
E28	Interest/Debt Payments									-
E29	Other Expenses	24,000		500		7,100	3,500			35,100
E30	Grant Expenses									-
E30a	Conservation Grant								269,000	269,000
E30b	Recreation Grant								204,568	204,568
E30c	Harbor Grant								187,113	187,113
E30d	Facilities Grant								272,000	272,000
<b>TOTAL EXPENSE</b>		<b>1,111,882</b>	<b>95,820</b>	<b>1,371,560</b>	<b>1,159,550</b>	<b>145,064</b>	<b>229,683</b>	<b>52,148</b>	<b>932,681</b>	<b>5,098,307</b>
<b>Debt</b>										
D1	Bonds 2014		207,571	100,000						307,571
D2	Coast Seafood	83,000			145,000					228,000
D3	BVVA Loan NMTC				160,737					160,737
D4	Acquisition	75,000								75,000
D5										-
D6										-
<b>TOTAL EXPENSE</b>		<b>158,000</b>	<b>207,571</b>	<b>100,000</b>	<b>305,737</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>771,308</b>
<b>TOTAL EXPENSE</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>GRAND TOTAL EXPENSE</b>		<b>1,269,882</b>	<b>303,391</b>	<b>1,471,560</b>	<b>1,465,287</b>	<b>145,064</b>	<b>229,683</b>	<b>52,148</b>	<b>932,681</b>	<b>5,869,615</b>
<b>TOTAL REVENUE</b>		<b>1,133,100</b>	<b>500,750</b>	<b>1,446,070</b>	<b>797,200</b>	<b>90,913</b>	<b>197,500</b>	<b>-</b>	<b>932,681</b>	<b>5,098,144</b>
<b>NET INCOME</b>		<b>(136,702)</b>	<b>197,359</b>	<b>(25,490)</b>	<b>(668,087)</b>	<b>(54,151)</b>	<b>(32,183)</b>	<b>(52,148)</b>	<b>-</b>	<b>(771,471)</b>



## COMMISSIONERS

1<sup>st</sup> Division

Larry Doss

2<sup>nd</sup> Division

Greg Dale

3<sup>rd</sup> Division

Stephen

Kullmann

4<sup>th</sup> Division

Richard Marks

5<sup>th</sup> Division

Patrick Higgins

**Humboldt Bay**  
**Harbor, Recreation and Conservation District**  
 (707)443-0801  
 P.O. Box 1030  
 Eureka, California 95502-1030



## Port of Humboldt Bay

## REQUEST FOR PROPOSAL

## Lease of Redwood Marine Terminal I

The Port of Humboldt Bay ("Port"), Eureka, California, is issuing this Request for Proposals ("RFP") for the lease of the Redwood Marine Terminal I ("RMT I").

## Proposal Information

<b>Proposal Title</b>	Lease of Redwood Marine Terminal I
<b>Proposal Type</b>	Lease or other form of Property Rental Agreement
<b>Length of Term</b>	Up to 66 Years
<b>RFP Issuance</b>	August 21, 2019
<b>Newspaper Publication</b>	August 23, 2019
<b>Pre-Proposal Meeting</b>	September 16, 2019 at 9:00 a.m. (NON-MANDATORY)
<b>Site Tour</b>	Week of October 7 – October 11, reservations are required for the site tour unless other arrangements are made. Please contact Larry Oetker, Executive Director (707)443-0801
<b>Proposals Due</b>	November 1, 2019 at 4:00 p.m.

## Instructions for Submitting Proposals

<b>Submittal Address</b>	Humboldt Bay Harbor, Recreation, and Conservation District Attention, Larry Oetker, Executive Director 601 Startare Drive Eureka, CA 95521
<b>Submittal Copies</b>	Three (3) original (clearly marked Original) paper versions and five (5) electronic copies USB drive

<b>Submittal Envelope Requirements</b>	Proposal must be <u>sealed</u> and have the following information <u>clearly marked</u> and visible on the outside of the envelope: <ul style="list-style-type: none"> <li>• Proposal Name: Lease of Redwood Marine Terminal I</li> <li>• Name of Company</li> <li>• Address</li> <li>• Phone Number</li> <li>• E-mail address</li> </ul>
<b>Late Submittals</b>	Proposals received after the time and date stated above shall not be considered and will be returned to the Respondent unopened.

## How to Obtain Proposal Documents

Copies of the RFP may be obtained at:

<b>Available</b>	<b>Location</b>
<b>Yes</b>	Humboldt Bay Harbor, Recreation, and Conservation District Attention, Larry Oetker, Executive Director 601 Startare Drive Eureka, CA 95521
<b>Yes</b>	Navigate to the Port of Humboldt Bay main website at: <a href="http://humbolddbay.org/">http://humbolddbay.org/</a> , then scroll down on the left hand side of the home page to "Current Items" and click on "Request for Proposals Lease of Redwood Marine Terminal I" to download the RFP.

## Questions about the Proposal

Questions and/or Requests for Information ("RFI") must be submitted in writing and can be submitted by fax or email as follows:

<b>Primary Contact</b>	Larry Oetker, Executive Director Email: <a href="mailto:loetker@humbolddbay.org">loetker@humbolddbay.org</a> Phone: (707)443-3401
<b>Question/RFI Due Date for All Proposer Questions</b>	<b>September 21, 2019 at 4:00 p.m.</b> Please submit questions as soon as possible. No questions regarding this RFP will be responded to if received after the above date. All pertinent questions will be responded to and answered in writing no later than the Response Date listed below.

<b>Port Responses to Questions</b>	<b>September 25, 2019</b> All pertinent questions will be responded to via addendum faxed (or emailed) to all prospective Proposers and placed on the Port's website. Proposers who do not receive a copy of the addendum should download it from the Port's website. All addendums must be acknowledged on the RFP Acknowledgement and Signature form.
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Once the RFP is issued, and until a recommendation for award is made to the Board, each Proposer and its representatives, agents, and affiliates, shall not contact members of the Evaluation Committee, Port staff or the Port Board to discuss or ask questions about the contents of this RFP, the lease or the selection process. All questions shall be submitted in writing as described above. Inappropriate contacts may result in the Proposer's disqualification.

### **Full Opportunity**

The Port's policy prohibits discrimination or preferential treatment because of race, color, religion, sex, national origin, ancestry, age (over 40), physical or mental disability, cancer-related medical condition, a known genetic pre-disposition to a disease or disorder, veteran status, marital status, or sexual orientation. The successful Respondent shall comply with the Port's non-discrimination policy.

The Port reserves the right to reject any or all proposals, to waive any irregularities or informalities not affected by law, to evaluate the proposals submitted and to award the contract according to the proposal which best serves the interests of the Port.

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*Larry Oetker, Executive Director*

## **I. Solicitation Overview**

### **1) Port Overview**

The Harbor entrance is 48 ft. deep and the shipping channel is 38 ft. deep. The port contains 9 deep draft berths. 15 percent of Humboldt Bay's 33 miles is considered appropriate for harbor facility development. State Route 299 is STAA truck approved and US Highway 101 south is STAA approved with the exception of approximately 10 miles. Redwood Marine Terminal I cargo handling facilities are currently in disrepair. The federal Navigation channel at Redwood 1 terminal currently is established at 38 ft. depth. An approximately 6.3 acre 1100 ft. length berth, wood dock, with approximately 75 acres of industrial land (41 acres Harbor District and 34 acres adjacent willing property owner), 2 warehouses, and a 2 ton crane. It is currently being used for various purposes including aquaculture and fisheries storage. These uses will be required to be relocated to acceptable locations prior to constructing new facilities. The long-term goal for the terminal is to repurpose the area into a

Multipurpose Marine Terminal to support the proposed offshore wind energy development which is proposed by the federal Bureau of Offshore Energy Management (BOEM) 30 miles offshore of Humboldt Bay and other maritime industries.

The port was classified as a potential Quick Reaction Port (QRP) for Offshore Floating Wind "OFW" and Marine Hydrokinetic (MHK), a potential fabrication and construction port for offshore floating wind and marine hydrokinetic, and an assembly port for offshore floating wind Semi-Sub and Tension Leg Platform "TLP", and marine hydrokinetic by BOEM.

The port's biggest assets related to offshore floating wind and marine hydrokinetic development (land, no air draft restriction, and navigation channel geometry, proximity to the ocean), show that assembly and quick reaction facilities are feasible with some significant facility upgrades. Anchor handling tugs, bulk carriers, and other offshore construction vessels can also potentially be accommodated, but may require upgrades to upland facilities such as crane capability. Offshore floating wind assembly could be conducted quayside of Redwood Marine Terminal I if new purpose built facilities such as construction of a new concrete wharf. The site also has the potential for marine hydrokinetic construction and assembly with wharf upgrades (bearing capacity, crane).

The Redwood Marine Terminal I property has additional heavy industrially zoned land directly adjacent to the District's property that are also potentially available for lease. An overview of the Port and Site(s) are included as Exhibit B.

## **2) Solicitation**

The Port is soliciting proposals for the development, use, and occupancy of Redwood Marine Terminal I (the "Site").

The Port anticipates that the Site will be available for rent immediately. The Port will consider all proposed durations of term for use and occupancy of the Site; however, the Port is limited by the California Tidelands Trust law to a maximum term of duration of 66 years for any property rental agreement.

It is anticipated that the Board of Humboldt Bay Harbor, Recreation, and Conservation District will consider awarding an agreement to occupy and use the Site to the successful Proposer(s). This agreement may take the form of a option to lease agreement or other property rental agreement (collectively referred to herein as "lease"). Key lease provisions are provided as Exhibit A.

All Proposers must comply with the terms and conditions set forth in this RFP.

## **3) Solicitation Goals**

The Port's goals for the Site are as follows:

- a) Develop a new multipurpose terminal and associated facilities to support the offshore floating wind industry and other maritime uses.
- b) Increase maritime commerce and utilization of the Site
- c) Maximize the indirect economic benefit from Port operations to the surrounding local community and region; and
- d) Secure business that supports, enhances, or diversifies current maritime operations, and is compatible with the Port's maritime operation;
- e) Maintain and enhance environmental protection and the regions quality of life;
- f) Maximize revenues from the use and operation of the Site;
- g) Relocate the existing aquaculture and commercial fishing storage areas to better facilities
- h) Comply with and support the Port's policies.

#### **4) Condition of Property and Future Improvements**

The successful Proposer must be prepared to take possession and use of the Site in its "as-is, where-is, with all faults" condition, including without limitation, environmental compliance and with the existing cranes in place on the Site.

The Proposer will be responsible for all capital improvements, including without limitation the construction, financing, and maintenance of all such improvements. The Proposer will be responsible for obtaining all applicable permits and other entitlements for such improvements.

## **II. Submission Requirements**

### **Format**

The Proposal shall not be longer than 30 pages (one sided or 15 pages double sided), printed on 8 ½" x 11" paper and formatted in no smaller than 10 point font. Please label your responses 1 through 10, in the order presented below. All submitted material must be bound with only one staple or binder clip in the upper left corner. Please no binders or any other type of binding. Submittals must be able to fit into a 9 x 11.5 inch folder. Failure of the Respondent to provide any information requested in the RFP may result in rejection for non-responsiveness.

### **Content**

The proposal must respond to the following 10 items. Please label your responses 1 through 10, in the order presented below. Responses to items 1 through 9 of this section are subject to the 30 page limit.

#### **1) Cover Letter and Company Information**

The proposal must provide the following Proposer and team member information:

- a) Cover letter
- b) Name of your company (including the name of any parent company), business address, email address, Federal Tax ID number, telephone and fax numbers. Also provide a brief statement of who is authorized to submit the proposal on the behalf of your firm. Please make sure that person signs and dates the statement.
- c) A description of the Proposer, including a description of all team members and

the anticipated legal relationship among the team members. Include the location (address) of each team member.

- d) A brief outline of the roles of each team member. At a minimum, each Proposer must identify all participants of its team and the team members who will have primary responsibility for facility operations, customer relationships, financial matters (including capital improvements) and relations with the Port.
- e) The identity of each individual or company who holds a major or controlling interest in the Proposer and each team member.
- f) The identity of each company and individual who is expected to act as legal, financial, or other advisor for the Proposer.
- g) An organizational chart that illustrates the roles and relationships identified in (b) – (e).
- h) Provide a written statement that your company has not been debarred from providing services to any State or Federal Agency within the last five (5) years. Sign and date your statement.  
If your firm has been debarred, you will need to provide background information and reason for the debarment. Provide the name and contact information for the agency that debarred your firm. The Port must review the reason and duration for the debarment before it can determine if your firm can be considered for this project.

## **2) Knowledge and Experience**

Provide relevant information about your company's knowledge and experience. By providing reference/client information, you authorize us to contact such clients.

- a) OPERATION: A list of comparable operations and development projects in the marine, rail, surface transportation and/or other similar sector in which the Proposer and each team member have participated (limited to the last 10 years). Proposers should specify how these comparable projects and/or operations relate to the proposed Project. Provide a description of each project:
  - i) Brief description
  - ii) Cost to implement, revenue generated
  - iii) Nature of the operations
  - iv) Other value-related information that may be pertinent
- b) A list of at least three current Proposer and team member references, which may not include other team members. These references should be able to describe the relevant qualifications and capabilities of team members looking to take a leading role in the operation, maintenance, financing and capital development of the Project. Include names, addresses, and contact information.

## **3) Land Area Intended to Use/Occupy**

The proposal must indicate:

- a) If the proposal is for the entire Site or only portions of it
- b) If the proposal is only for a portion of the Site, the Proposer must specify with maps and/or aerial photos what portion of the Site the Proposer is proposing to

use and occupy

#### **4) Term of Occupancy**

The proposal must state the proposed term of the lease, including any options to extend the term. Maximum allowable term is 66 years.

#### **5) Intended Use of the Site**

The Port is seeking to secure business that supports, enhances, or diversifies current maritime operations, and is compatible with the Port's current maritime operations. The proposal must state the proposed primary use of the Site as well as any secondary uses proposed. As stated in the Project Overview, the Port is soliciting proposals to support the proposed offshore floating wind industry.

The statement of proposed primary and any secondary uses must also describe in detail:

- a) The proposed operations of each use
- b) Business plan, key customers, market conditions to support the activities proposed.
- c) Type and amount of equipment and structures that will be needed for such operations.
- d) Hours of operation
- e) Estimated schedule for reaching full operations
- f) A map or site plan showing anticipated operations
- g) Estimated direct and indirect economic benefit from the proposed use of the Site to the surrounding local community and region. Please include estimated direct and in-direct employment projections over the term proposed

#### **6) Improvements**

State what improvements the Proposer proposes developing during the term of the lease, including, without limitation:

- a) Any buildings, utility systems, berth deepening, repaving, or other construction activities.
- b) A proposed site plan showing the general location of each improvement on the premises.
- c) A schedule of performance showing:
  - i. Types of permits/approvals from regulatory agencies the Proposer anticipates will be necessary to secure for the proposed use and improvements
  - ii. When the Proposer anticipates securing all permits, approvals, and financing for such improvements
  - iii. When the Proposer plans to begin construction of such improvements
  - iv. When such improvements will be completed
  - v. Amount and form of financing/funding

## **7) Rent**

The proposal must state the proposed rent for all portions of the Site that the Proposer proposes to use and occupy during the term of the lease, including without limitation:

- a) Proposed commencement date for payment of rent to the Port
- b) Proposed amount of minimum rent
- c) Proposed frequency of minimum rent
- d) Proposed variable rent (e.g., "participation rent" or "profit sharing"), if any
- e) Proposed rent escalators, including frequency and basis

For any proposed variable rent based on revenues or other basis, describe in detail how such percentage rent would be calculated. If the proposal is for multiple portions of the site to be operated by different entities, provide the above information for each portion of the Site.

## **8) Financial Capacity**

The proposal shall include:

- a) Evidence satisfactory to the Port of the Proposer's financial capacity to carry out and implement every aspect of the Proposer's proposal, including, without limitation:
  - i. Development and maintenance of any proposed improvements
  - ii. Purchase or acquisition of all necessary equipment and materials
  - iii. Compliance with all environmental or other regulatory requirements that may apply to the proposed use and operation of the premises.
- b) Audited financial statements for the last available year; if audited statements are not available, please provide unaudited statements and certification of the Chief Financial Officer (or equivalent) as to the unaudited financial statements.

## **9) Additional Information**

The proposal shall include additional information the Proposer believes is necessary to more fully describe the intended use and occupancy of the Site, so long as such additional information does not exceed the maximum page limit set forth in this RFP and is not redundant with Items 1 through 8 above.

## **III. Evaluation of Proposals**

Prior to award, the Port must be assured that the Respondent selected has all of the resources required to successfully perform under the contract. These assurances include, but are not limited to, personnel with skills required, equipment/materials and financial resources sufficient to perform under the award. If during the evaluation process, the Port is unable to assure itself of the Respondent's ability to perform, the Port has the option of requesting from the Respondent any information that the Port deems necessary to determine the Respondent's capabilities. If such information is required, the Respondent will be notified and will be permitted five (5) working days to submit the requested



information.

Please make sure you have submitted responses to all items listed in the Submission Requirements section, as your proposal will be evaluated based on the following four criteria:

## **1) Evaluation Criteria**

### Cover Letter, Company Information, Knowledge and Experience

As evidenced from Items 1 and 2 of Submission Requirements, Content.

### Plan and Approach

As evidenced from your response to Items 3 through 6 of Submission Requirements.

### Proposed Rent and Financial Capacity

As evidenced from your response to Items 7 and 8 of Submission Requirements.

### Additional Information, Port Policy Requirements, and Required Forms

As evidenced from your response to Items 9 and 10 of Submission Requirements.

## **2) Selection Procedure**

All proposals received by the deadline which meet the RFP's requirements will be evaluated. The Port reserves the right to exercise broad discretion in the review and evaluation of all proposals received based on the evaluation criteria listed above. Based on the responses to this RFP, the Port will determine the top ranked Respondents. The selection process may include interviews (at the discretion of the Port) for the top ranked Respondents. If interviews are to take place, the Port will notify the top ranked Respondents. The Port currently expects that it will designate up to three top ranked Respondents ("Shortlisted Proposers").

The Port expects to designate the Shortlisted Proposer(s) approximately one month following the RFP submission deadline. After identifying the Shortlisted Proposer(s), one or more Shortlisted Proposers will then sign a confidentiality agreement with the Port and be invited to one-on-one meetings with the Port to negotiate the final terms and conditions of the lease. The Port currently expects to complete negotiations by December 1, 2019 but may end such negotiations earlier and opt to negotiate with other Shortlisted Proposer(s) at any time.

The Port reserves the right to modify or terminate this solicitation at any stage if the Port determines such action to be in its best interest. The receipt of proposals or other documents at any stage of the RFP process will in no way obligate the Port to enter into any contract of any kind with any party.

The Port and its advisors are not responsible for costs or damages incurred by Proposers, Shortlisted Proposers, Teams, team members, subcontractors or other interested persons in connection with this solicitation process, including all costs associated with preparing responses to this RFP, and of undertaking due diligence and participating in any conferences, meetings, presentations, negotiations or other activities.

#### **IV. Additional Provisions**

The terms "Consultant", "Contractor", "Proposer", "Respondent", "Seller", "Supplier", and "Vendor" whenever appearing in this RFP or any attachments, are used interchangeably to refer to the company or firm submitting a proposal in response to this RFP.

**A. Port's Legal Name and Jurisdiction**

The Port of Humboldt Bay (the "Port") is legally known as the Humboldt Bay Harbor, Recreation, and Conservation District.

**B. Ownership of Proposal**

All rights to information developed, disclosed, or provided in a proposal and its attendant submissions are the property of Port, unless a Respondent makes specific reference to data that is considered proprietary. To the extent that a Respondent does not make specific reference to data that is considered proprietary, submission of an RFP constitutes the Respondent's express (a) grant and assignment of a perpetual, transferable (in whole or in part), non-exclusive royalty-free license to the Port for copyright, patent, or other intellectual property right (collectively referred to as "intellectual property"), and (b) agreement that the Port may use any such intellectual property without charge for any lawful purpose in connection with other Port development projects, including without limitation the creation of derivative works and issuance of sublicenses.

**C. Public Records Act**

Per the Public Records Act (Gov. Code 6250 et seq.), the Port may be obligated to make available to the public the submitted proposal and all correspondence and written questions submitted during the RFP process. However, such disclosure shall not be made prior to the date on which the Port publishes a final Board agenda report recommending award of the contract. Any trade secrets or proprietary financial information, which a Respondent believes should be exempted from disclosure, shall be specifically identified and marked as such. Blanket-type identification by designating whole pages or sections shall not be permitted and shall be invalid. The specific information must be clearly identified as such.

The Port reserves the right to independently determine whether any document is subject to disclosure and to make such information available to the extent required by applicable law, without any restriction

**D. Port's Right to Modify**

Respondents are advised that the Port has not incurred any obligations or duties in soliciting this RFP. The Port reserves the right to reject any or all proposals submitted in response to this RFP; to request additional information or clarification of information submitted; to cancel or modify, in part or in its entirety, this RFP; to request new RFPs or pursue any other means for obtaining the desired services; to waive any informalities or minor irregularities in the RFP, and other inconsequential deviations from the RFP's requirements. The Board of Port Commissioners retains the right, exercising broad discretion, to award this project in part or in total to the Respondent(s) of its choice, and to decide to undertake the project or to terminate the project at any time prior to approval of a formal contract.

**E. Conflicts of Interest**

By submitting a proposal, the Respondent represents that it is familiar with Section 1090 and Section 87100 et seq. of the Government Code of the State of California, and that it does not know of any facts that constitute a violation of said sections in connection with its proposal. Respondent also represents that its proposal has completely disclosed to the Port all facts bearing upon any possible interests, direct or indirect, which Respondent believes any member of Port, or other officer, agent or employee of Port or any department presently has, or will have, in any agreement arising from this RFP, or in the performance thereof, or in any portion of the profits there under. Willful failure to make such disclosure, if any, shall constitute ground for rejection of the proposals or termination of any agreement by Port for cause. Respondent agrees that if it enters into a contract with the Port, it will comply with all applicable conflict of interest codes adopted by the Port of Humboldt Bay and their reporting requirements.

**F. Cost of Preparing a Response**

All costs for developing a response to this RFP and attending any proposal meetings or selection meetings are entirely the responsibility of the Respondent and shall not be chargeable to the Port.

**G. Law Compliance**

The Respondent must comply with all laws, ordinances, regulations and codes of the Federal, State, and Local Governments, which may in any way affect the preparation of proposals or the performance of the contract.

**H. Respondent's Relationship**

The Respondent's relationship to the Port shall not be deemed that of an employee, agent, or joint venture of the Port.

**I. Proposal Considerations and Legal Proceeding Waiver**

The Port has absolute discretion with regard to acceptance and rejection of proposals. In order to be considered, the party submitting a proposal waives the right to bring legal proceedings challenging the Board of Port Commissioners' choice of the award.

**J. False Statements**

False statements in a proposal will disqualify the proposal.

**K. Grade of Service**

The Respondent must provide professional service and maintain appropriate personnel to provide expedient and courteous service.

**L. The Respondent's Liability**

The Respondent shall be responsible for any and all damages to the Port's premises resulting from the negligent acts or willful misconduct of the Respondent's agents or employees.

**M. Amendments**

The Port may, at its sole discretion, issue amendments to this RFP at any time before the time set for receipt of proposals. The Respondents are required to acknowledge receipt of any amendments (addenda) issued to this RFP by acknowledging the Addendum in the space provided on the RFP

Acknowledgement and Signature Form. The Port shall not be bound by any representations, whether oral or written, made at a pre-proposal, pre-contract, or site meeting, unless such representations are incorporated in writing as an amendment to the RFP or as part of the final contract. All questions or requests for clarification concerning material terms of the contract should be submitted in writing for consideration as an amendment.

**N. Withdrawal or Modification of Offers**

The Respondent may modify or withdraw an offer in writing at any time before the deadline for submission of an offer.

**O. Acceptance**

Any offer received shall be considered an offer which may be accepted or rejected, in whole or in part, by the Port based on initial submission with or without discussions or negotiations.

**P. Representations**

No representations or guarantees of any kind, either made orally, or expressed or implied, are made with regard to the matters contained in this document, including any attachments, letters of transmittal, or any other related documents. The Respondent must rely solely on its own independent assessment as the basis for the submission of any offer made.

**Q. Award Consideration**

The Port shall not be bound to accept or award to the highest paying proposal and will award the contract (if any) to the company/firm selected through the competitive process (and any subsequent interviews) outlined in this RFP.

**R. Protest Procedures**

Any party that has timely submitted a responsive proposal may file a protest of award in accordance with the provisions set forth below:

1. Any protest must be submitted in writing to Larry Oetker, by 5:00 p.m. of the fifth (5th) business day following publication of the identity of the apparent successful Proposer(s) (or of notice of intended award, if such notice is issued).
2. The protest must include the name, address and telephone number of the person representing the protesting party.
3. The initial protest document must contain a complete statement of the basis for the protest, including in detail, all grounds for protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the protest; any matters not set forth in the written protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence.

Any protest not conforming to the foregoing shall be rejected by the Port without recourse.

Provided that a protest is filed in strict conformity with the foregoing, protests shall be heard initially by the Executive Director, or his/her designee, who shall issue a written report and a recommended disposition of the protest, including written findings of fact and any conclusions of law. The Board of Port Commissioners (Board) may then ratify the Executive Director's (or his/her designee's) recommendations or conduct such further review of the protest, as

the Board may determine. The Board will render a final determination and disposition of a protest by taking action to adopt, modify or reject the disposition of a protest. Action by the Board relative to a protest shall be final and not subject to appeal or reconsideration by Protestor, the Port, any employee or officer of the Port or the Board of Port Commissioners.

## RFP Acknowledgement and Signature Form

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### Lease of Redwood Marine Terminal I

The undersigned, having carefully examined the Site to be used and occupied, the local conditions of the Site, the Content of this RFP, and documents made available for this project, proposes to enter into a lease with the Port of Humboldt Bay consistent with the requirements in this RFP, including all of its component parts, and to comply with all applicable Port policies.

### Addendum Acknowledgement

The following addendum (addenda) is (are) acknowledged in this RFP: \_

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### Acknowledgement and Signature:

1. No Proposal is valid unless signed in ink by the person authorized to make the proposal. By signing below, the undersigned certifies that he/she is authorized to make the proposal.
2. I have carefully read, understand and agree to the terms and conditions on all pages of this RFP.
3. The Proposal submitted by Proposer is accurate and complete.

Respondent's Name and Title: \_

---

Company Name: \_

---

Address: \_

---

Telephone: \_\_\_\_\_ Fax: \_

---

Email: \_\_\_\_\_

Contractor License # (if applicable): \_\_\_\_\_ Expiration Date: \_

---

Federal Tax Identification Number: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_

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## EXHIBIT A – Key Lease Provisions

The actual form and content of the lease or other property rental agreement (collectively referred to herein as the “lease”) between the Port and the successful Proposer will depend on what the successful Proposer has proposed and what the Port has accepted. The list below is intended to give each Proposer a sense of the type of provisions that the Port will require to be incorporated into such lease. For purposes of the table below, the successful Proposer is referred to as the “Tenant.” The table below is not intended to be comprehensive of all lease provisions.

<b><u>Provision</u></b>	<b><u>Description</u></b>
Effective Date	The lease shall not be effective unless and until the Tenant has signed and delivered three (3) originals of the lease to the Port, and the lease has been formally approved by the Board of Port Commissioners in its sole and absolute discretion and signed and approved as to form and legality by the Port Attorney.
Permitted Uses	The permitted uses of the Premises will be based upon what the Tenant sets forth in its proposal. The permitted uses will also include a detailed description of Tenant’s proposed operations while using and occupying the Premises.
Term	The term of the lease will be the number of years that the Board of Port Commissioners approves based upon the Tenant’s proposal and staff’s recommendation.
Compensation/Rent	The amount that Tenant pays to the Port for the right to use and occupy the Premises shall include at least a minimum annual compensation or “Base Rent.” The compensation or rental provisions may include other forms of rent, such as a percentage rent or participation rent. The amount of Base Rent and/or other forms of rent shall depend on the Tenant’s proposal and staff’s recommendation to the Board.
Condition of Premises	Tenant will take the Premises, including, without limitation, all improvements thereon, in its “as-is, where-is, with all faults” condition.
Environmental Responsibilities	The lease will contain a detailed environmental exhibit describing the Tenant’s obligations with respect to environmental matters which will address all forms of environmental media, including, without limitation, air, soil, groundwater, surface water, storm water and noise. The environmental exhibit will also address the Tenant’s obligations with respect to pre-existing contamination on the Premises.
Equipment	The Port shall have no responsibility for providing any equipment that may be necessary or desirable for Tenant’s use and occupation of the Premises. Tenant shall be solely responsible for acquiring any equipment necessary or desirable for Tenant’s use and occupation of the Premises, all at no cost to the Port.
Responsibility for Capital Improvements	The Premises contain certain improvements that will have been disclosed to Tenant prior to entering into the lease. The Port will have no responsibility for providing any other improvements or for removing any existing improvements that Tenant does not wish to use. Tenant shall not construct any capital improvements on the Premises without the Port’s prior express written consent,



	and if Tenant constructs any improvements with Port's prior written consent, Tenant shall be solely responsible for permits, entitlements, and other government approvals for such improvements (including, without limitation, any approvals required under the California Environmental Quality Act), as well as for all costs associated with the design, construction, maintenance, and operation of such improvements.
Maintenance & Repairs	Tenant shall be responsible for the maintenance and repair of the Premises, including, without limitation, all improvements thereon at the time of the commencement of the term of the lease and all improvements subsequently developed on the Premises during the term of the lease, unless otherwise expressly stated in the lease.
Compliance with Laws	Tenant shall, at its sole cost and expense, comply with all applicable federal, state and local laws, rules, regulations, permits and orders relating to or governing the Tenant's activities on the Premises. The Tenant shall obtain and maintain all licenses, permits and other approvals or entitlements necessary for the conduct of its activities.
Compliance with Port Policies	Tenant shall also comply with Port policies and procedures.
Indemnification	Tenant shall be required to indemnify, defend, and hold the Port harmless from any and all claims, actions, losses, damages, or other liabilities (whether to person or property, including, without limitation, any damage to the land caused by Tenant's release of hazardous materials on, at, or below the Premises) arising from Tenant's operations upon or at the Premises or the occupancy or use by the Tenant of the Premises or any part thereof, or occasioned wholly or in part by any act or omission attributable to the Tenant or any other Person for whom the Tenant is responsible in Law.
Insurance	<p>Tenant shall be required to obtain and maintain such insurance as may be reasonably required by the Port from time to time. The amounts and types of insurance that the Port will require may vary depending on the type of uses and other activities that Tenant proposes during the RFP process, as well as changes in industry practices during the term of the Agreement. The types of insurance that the Port will require include the following:</p> <p>(1) Commercial General Liability insurance – limit varies from \$1,000,000 per occurrence to \$25,000,000 depending on the type of occupancy, other related coverage, if applicable includes contractors' pollution legal liability;</p> <p>(2) Automobile Liability insurance – limit varies from \$1,000,000 per accident to \$5,000,000 depending on the type of occupancy, other related coverages, if applicable, include MDS-90 and garage keepers' liability;</p> <p>(3) Statutory for Workers' Compensation insurance and \$1,000,000 per accident, \$1,000,000 bodily injury each employee, and \$1,000,000 policy limit for bodily injury by disease, for Employer's Liability. If work is performed in or around water, U.S. Longshoremen and Harbor Workers Act coverage and, if applicable, Jones Act and Marine Employer's Liability coverage or federal employers' liability insurance. Such insurance shall contain a waiver of subrogation in favor of the Port of Humboldt</p>

	<p>its commissioners, officers, agents and employees; (4) If work involves construction or demolition work within 50 feet of railroad property, Railroad Protective Liability insurance in the name of the applicable railroad company with limits of at least \$2,000,000 per occurrence or as otherwise required by the applicable railroad company;</p> <p>(5) Protection and Indemnity insurance (Watercraft Liability) is required if watercraft/vessels are used. Limits are typically \$1,000,000 per person on board the watercraft for bodily injury and property damage, but no less than \$5,000,000 for watercraft of a length of 30 feet to 39 feet and no less than \$10,000,000 for watercraft 40 feet and over; any passenger services watercraft will need to be referred to Risk Management to determine amount of insurance required. Scope of coverage includes liability for bodily injury and property damage including wreck removal and liability to crew, and SP-23 clause or equivalent, including collision liability;</p> <p>(6) All Risk Property insurance - 100% replacement cost coverage for tenant's additions, alterations, furniture, fixtures, equipment including coverage for any increased costs of construction resulting from changes in applicable building codes and regulations and include coverage for 12 months loss of rents. Such insurance shall include the Port of Humboldt Bay as additional insured and loss payee as their interests may appear; such insurance also shall contain a waiver of subrogation in favor of such additional insured, and shall be primary insurance; no insurance or self-insurance of the Port shall be called upon to contribute to a loss. Tenant is also required to maintain builder's risk insurance during construction of all improvements (additions/alterations).</p> <p>(7) Other types of specialty insurance or different limits than disclosed above may apply depending on the type of occupancy proposed.</p> <p>(8) Commercial General Liability, Auto Liability and Protection &amp; Indemnity coverage must include the following as additional insureds and include a waiver of subrogation in favor of such additional insureds.</p> <p>(9) Deductibles for the required coverages that exceed \$25,000 must be disclosed to and approved by the Port Risk Manager.</p>
Security/Guaranty	Port policy requires security for Tenant's payment and performance obligations under the lease. The form of the security may be an irrevocable letter of credit, guaranty, or a cash deposit depending on the nature of Tenant's use and activities on the Premises during the term of the lease.
Taxes	Tenant will be required to pay any and all taxes arising out of Tenant's use and occupancy of the Premises, including, without limitation, any possessory interest taxes.
Utilities	Tenant shall be solely responsible for arranging and obtaining any and all utilities necessary for Tenant's use and operation of the Premises, all at Tenant's sole cost and expense.

Assignment & Subletting	Tenant shall not assign any rights under the lease or sublet any portion of the Premises without the Port's prior written permission as evidenced by a resolution approved by the Board of Port Commissioners in its sole and absolute discretion.
Reporting Requirements	Tenant shall maintain full and accurate books, records and accounts relating to all Tenant's use, occupation, and other activities upon the Premises that shall show all sales and charges arising out of such use, occupation and other activities. Such books and records shall be maintained in a true and accurate manner, in a form consistent with the requirements of the lease and in accordance with generally accepted accounting principles and generally accepted auditing standards. Such records may be in the form of electronic media compatible with or convertible to a format compatible with computers utilized by the Port at its offices, or a computer run hard copy. Tenant shall keep the books and records it is required to maintain segregated from its other operations and shall retain such books and records for a period of no less than five (5) years following the end of any contract year (as will be defined in the Agreement) to which such books and records relate (notwithstanding the expiration or earlier termination of the Agreement); provided, however, that if prior to the expiration of such five (5)-year period, any audit, review or investigation is commenced by the Port, or any claim is made or litigation is commenced relating to the lease by the Port, such books and records shall continue to be maintained by Tenant, and the Port shall continue to have the right to inspect such books and records in the manner stated in the lease, until the audit, claim or litigation is final.
Termination & Surrender	The Port shall have the right to terminate the lease upon an event of default by Tenant that is not cured within the applicable cure period that will be set forth in the lease as well as upon the expiration of the term of the lease. Upon termination of the lease, Tenant shall remove all Tenant's personal property from and vacate the Premises and surrender the Premises to the Port in substantially similar condition as Tenant received the Premises at the commencement of the lease, reasonable wear and tear excepted.

## **Exhibit B**

### **Site Overview**

# Humboldt Bay Harbor, Recreation, & Conservation District



Larry Oetker, Executive Director, [loetker@humboldtбай.org](mailto:loetker@humboldtбай.org), (707)443-0801



# HUMBOLDT Bay, California

Our Port is ready for business!

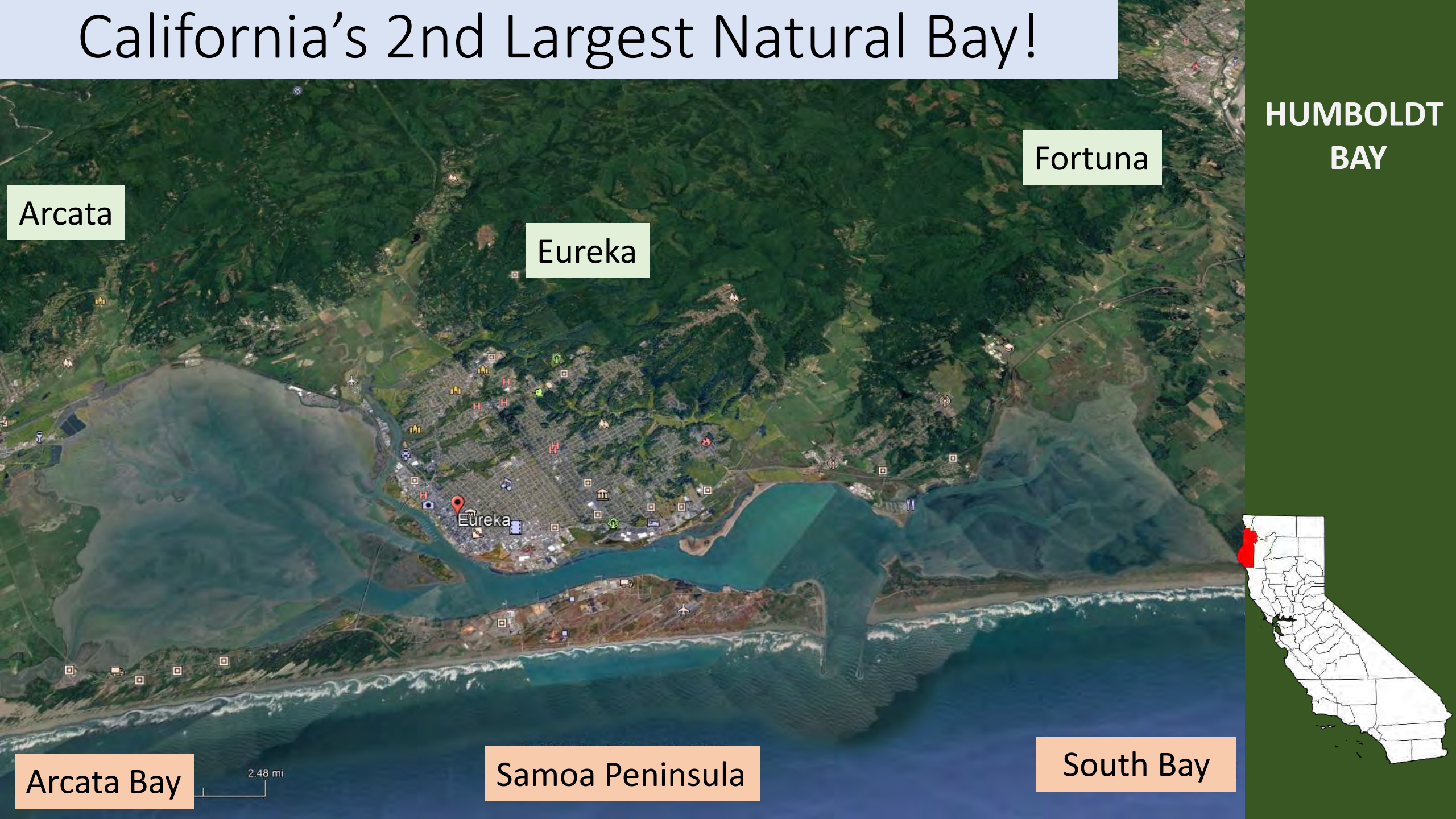


South Jetty  
Humboldt Bay California

Image By: Chad Johnson



# California's 2nd Largest Natural Bay!



**HUMBOLDT  
BAY**

Fortuna

Eureka

Eureka

Arcata

Arcata Bay

2.48 mi

Samoa Peninsula

South Bay



# 1990's

**Pacific Affiliates**

**Sierra Pacific Industries**

**Simpson Pulp Mill**

**Louisiana Pacific Pulp Mill**

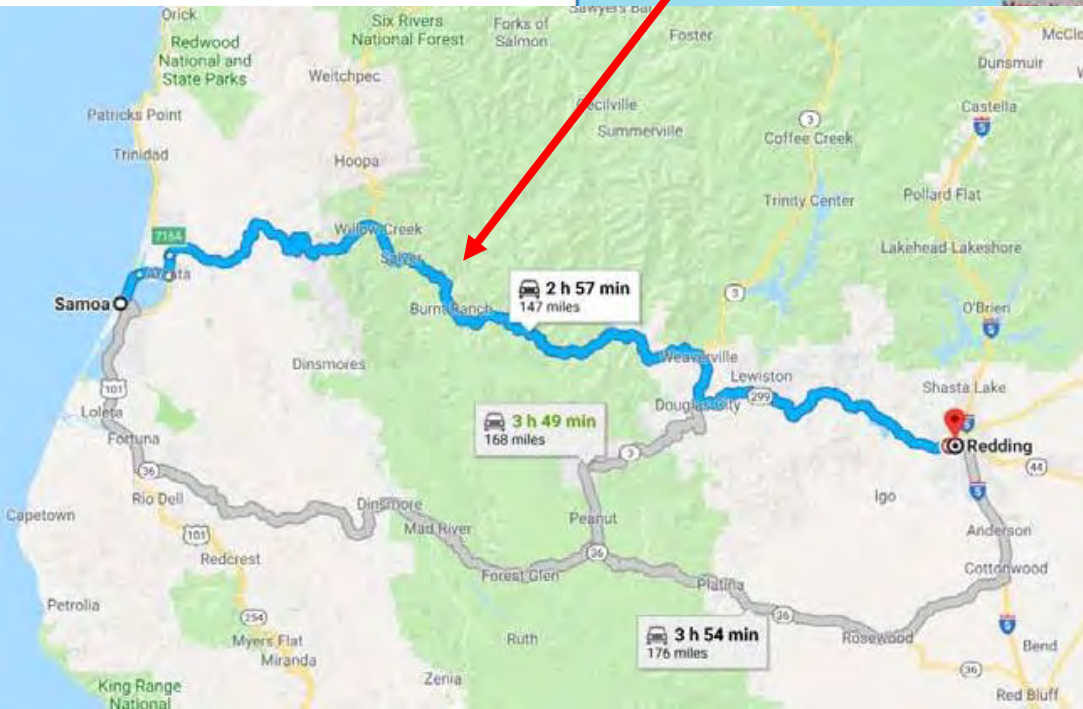
**North Coast Chip Export**





# Port of Humboldt

- STAA constructed terminal route
- 3 hours from Interstate Highway System

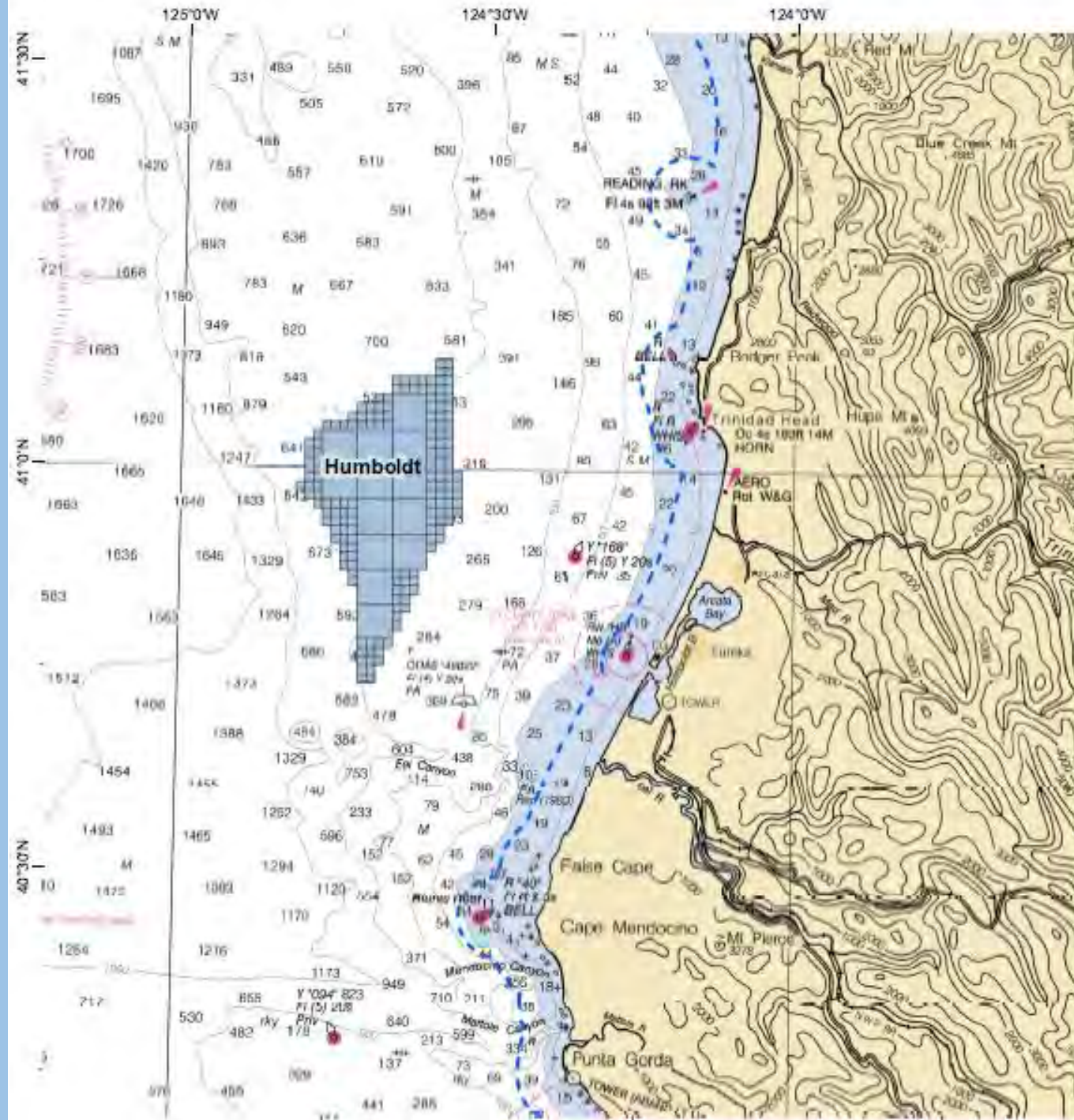




# Federal Offshore Wind Energy Lease Area

30 miles off  
Humboldt Bay

Anticipated  
Award Mid 2020



## Northern California Call Area

-- Federal / State Boundary

Proposed Call Areas



0 10 20  
Nautical Miles

0 10 20  
Kilometers

Map Date: 10/03/2018

**BOEM**  
Bureau of Ocean Energy  
Management





## The California Offshore Wind Project: A Vision for Industry Growth

FEBRUARY 2019



## Potential Offshore Wind Energy Areas in California: An Assessment of Locations, Technology, and Costs

Walter Musial, Philipp Beiter, Suzanne Tegen,  
and Aaron Smith

*National Renewable Energy Laboratory*



*This report is available from the Bureau of Ocean Energy Management by referencing OCS Study BOEM 2016-074. The report may be downloaded from BOEM's Recently Completed Environmental Studies -Pacific web page at <http://www.boem.gov/Pacific-Completed-Studies/>.*

*This study was funded by the U.S. Department of the Interior, Bureau of Ocean Energy Management.*

**NREL is a national laboratory of the U.S. Department of Energy  
Office of Energy Efficiency & Renewable Energy  
Operated by the Alliance for Sustainable Energy, LLC**

**This report is available at no cost from the National Renewable Energy  
Laboratory (NREL) at [www.nrel.gov/publications](http://www.nrel.gov/publications).**

**Technical Report  
NREL/TP-5000-67414  
December 2016**

**Contract No. DE-AC36-08GO28308**

# Offshore wind industry in California offers significant economic development potential

- **14,000+ potential direct construction and operations jobs from offshore wind in California.**
- **\$20-50B in state GDP growth from construction, operations, and support functions.**
- **Additional shipyard infrastructure investment and ship construction can revitalize industrial port areas.**





# Steps to Mobilize Offshore Wind Readiness at California's Ports

- Conduct holistic assessment of regional port infrastructure and capabilities, initiate outreach to relevant stakeholders, and monitor progress at other U.S. offshore wind ports
- Engage with industry leaders to ensure that the timeline for port upgrades aligns with opportunities for offshore wind development
- Secure public and private investment to complete port upgrades
- Establish manufacturing network and ramp up offshore wind activity at ports

# Growing a Wind Energy Cluster

- Establish a comprehensive approach to offshore wind development
- Set a market acceleration target
- Establish a phased approach
- Engage with industry leaders to ensure that the timeline for port upgrades aligns with opportunities for offshore wind development
- Align innovation and access to capital policies with industry needs
- Secure public and private investment to complete port upgrades
- Establish an Innovation District on Humboldt Bay to Support Port Infrastructure Investment

# Growing a Wind Energy Cluster



## Supply Chain Activities

- Project development and management
- Manufacturing
  - Nacelle, hub, and assembly
  - Blades
  - Tower
  - Foundation supply
  - Array cable supply
  - Export cable supply
  - Onshore and offshore substation supply
  - Operational infrastructure
- Installation
  - Turbine installation
  - Foundation installation
  - Array cable installation
  - Export cable installation
  - Other installation
- Operation, maintenance, and service
  - Wind farm operation
  - Turbine maintenance and service
  - Foundation maintenance and service
  - Subsea cable maintenance and service
  - Substation maintenance and service
- Decommissioning



# Floating wind fabrication&assembly - overview

## Onshore/inshoreactivities

### Substructure fabrication

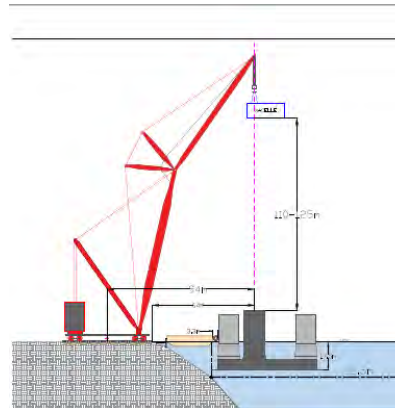


On land or in dock  
Steel or concrete

### Substructure load-out



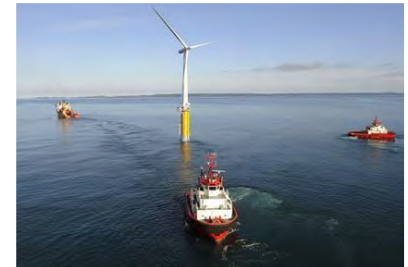
### Turbine installation



### Turbine commissioning



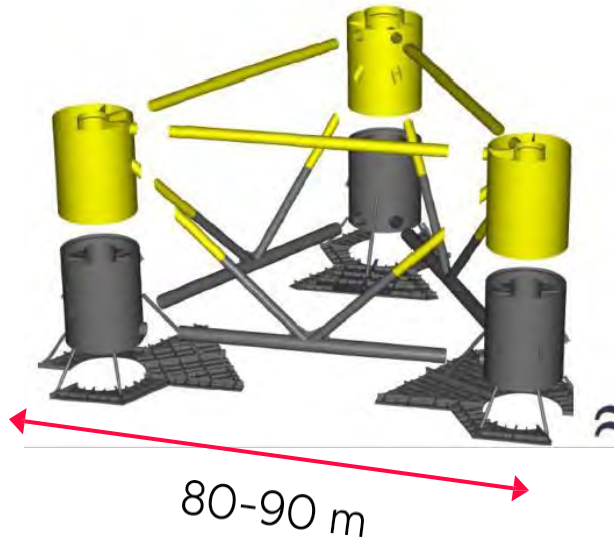
### Tow to site





# Fabrication - steel

- Competence needed
  - Fabrication of modules (off-site)
  - Assembly/welding
  - Sandblasting
  - Painting

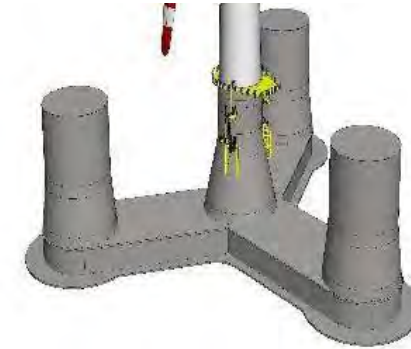


# Fabrication - concrete

- Traditional civil construction work



Source: Esteyco



Source: Olav Olsen



Fabrication in  
dry dock



Mass  
fabrication on  
land





# O&M

PREVENTIVE Operations & Maintenance

Yearly 2575 crew transfer vessels (2016)

Crew: 366 offshore people in Port of Oostende



# O&M

A large white crane is lifting a long, white wind turbine blade from a yellow truck. The blade is suspended by a cable and a hook. The truck is a multi-axle heavy-duty vehicle. In the background, a large white ferry ship with a blue and red stripe is docked. The ship has "ORCA" and "EUROPA FERRIES" written on its side. A small white van is parked in front of the ship. The sky is clear and blue.

CORRECTIVE Operations & Maintenance

400 wind turbines by 2020

3 blades / turbines = 1200 blades by 2020





Offshore Wind Terminal

---

**WELCOME**

VERSION  
APRIL  
2018

EMMANUEL TIMMERMANS  
BUSINESS DEVELOPMENT MANAGER







2

# REBO OFFERS

1. 15 h offshore terminal in sea port

2. Vessels up to 200 m

3. No locks to reach or leave

4. Prepared seabed in front of the quay

5. RORO acces

6. Quays up to 20 T/m<sup>2</sup>

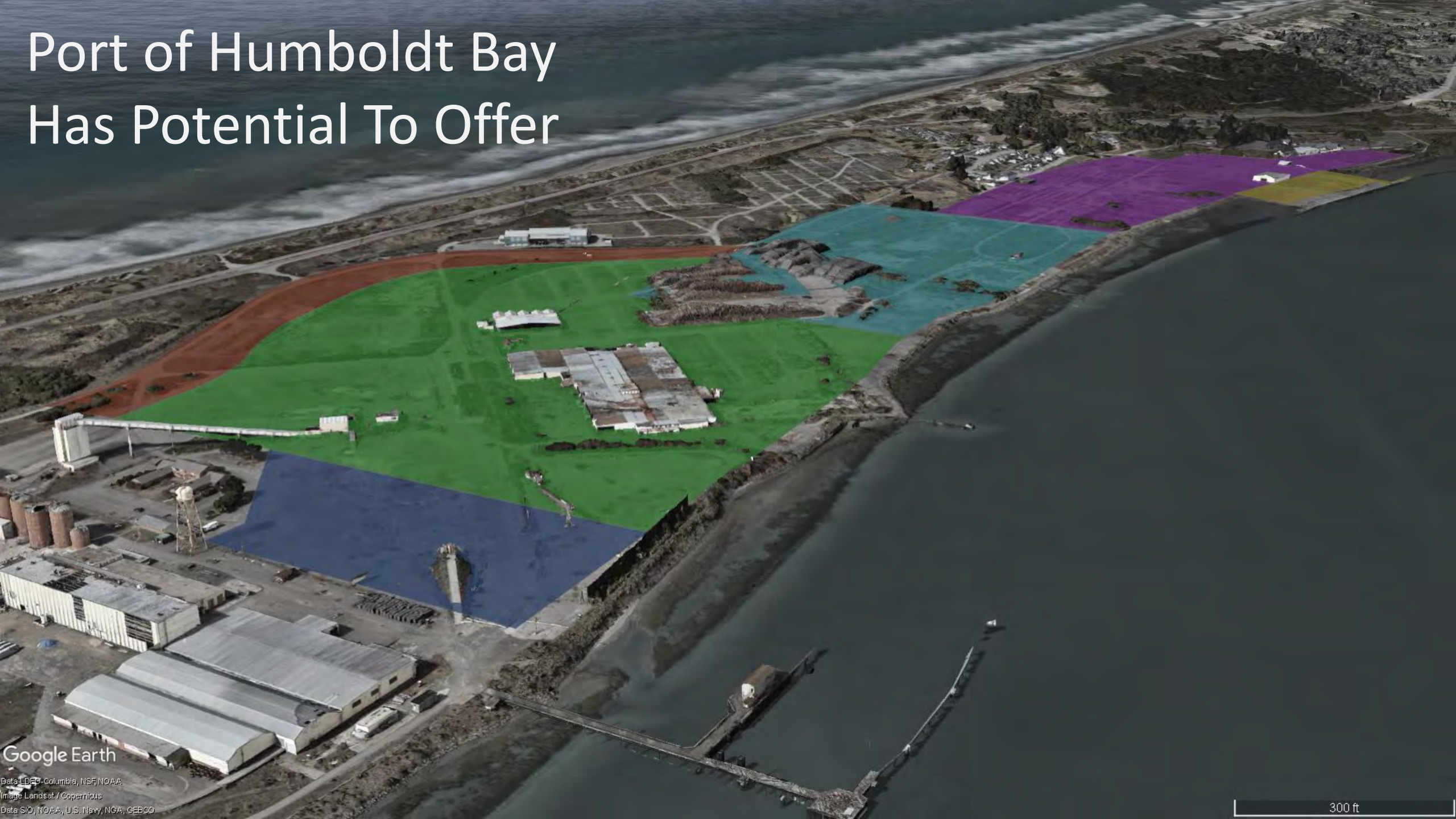
7. Prepared surfaces up to 20 T/m<sup>2</sup>

8. O&M: MHI Vestas, Siemens, Senvion, CMI, Falck, ...

9. Services: cranes, safety training, technical services, ...



# Port of Humboldt Bay Has Potential To Offer



Google Earth

Data: LDEF, Columbia, NSF, NOAA,  
Image Landsat / Copernicus  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

300 ft





**Redwood Marine Terminal I**  
Offshore Wind Terminal Areas

Map Created by:  
**PLANWEST**  
PARTNERS, P.C.  
Date: 1/24/2019

## **7 Acre Reinforced Multipurpose Dock**

- **20 Tons/M<sup>2</sup>**
- **Prepared seabed  
in front of dock**
- **RORO access**
- **CARB compliant**
- **Cranes/loading  
equipment**



## 40 Acre Reinforced Installation Area

- 20 Tons/M<sup>2</sup>
- Adjacent to dock
- RORO Access



**Redwood Marine Terminal I**  
Offshore Wind Terminal Areas

Map Created by:  
**PLANWEST**  
PARTNERS, INC.  
Date: 1/24/2019





# **40 Acre multipurpose storage/assembly area**

- **20 Tons/M<sup>2</sup>**
- **Adjacent to dock**
- **RORO Access**



**Redwood Marine Terminal I**  
Offshore Wind Terminal Areas

Map Created by:  
**PLANWEST**  
PARTNERS, INC.  
Date: 1/24/2019



**60 Acre**

**Multipurpose  
shipping yard**



**Redwood Marine Terminal I**  
Offshore Wind Terminal Areas

Map Created by:  
**PLANWEST**  
PARTNERS, P.C.  
Date: 1/24/2019



**8 Acre**

**Wood Pellet  
Manufacturing**

**With export to Asia**



**Redwood Marine Terminal I**  
Offshore Wind Terminal Areas

Map Created by:  
**PLANWEST**  
PARTNERS, P.C.  
Date: 1/24/2019



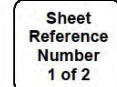


## Redwood Marine Terminal I

Offshore Wind Terminal Project Area








Angle Point	Easting	Northing
18	513084.79	4183625.95
19	513084.89	4183627.43
20	513083.78	4183627.53
21	513084.78	4183629.45
23	513084.78	4183629.45
24	513084.78	4183629.45
25	513084.78	4183629.45
26	513084.78	4183629.45
27	513084.78	4183629.45
01A	513084.78	4183629.45
01B	513084.78	4183629.45
02	513084.78	4183629.45
03	513084.78	4183629.45
04	513084.78	4183629.45

FLOOD →  
← EBB

San  
Chan  
Lig

**Contours**



— -3

— -3

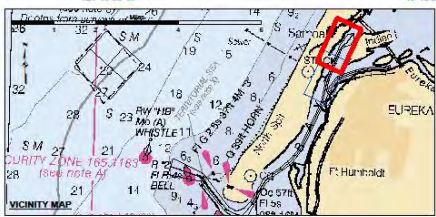
— -3

— -3

— -3

NOTES:  
DRAWINGS NOT TO BE USED AS NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATION REPRESENT THE POSITION OF THE SINKER ONLY.  
SURVEYED BY THE CORPS OF ENGINEERS.  
SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTHS OF A FOOT.  
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.  
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT CONFORMAL PROJECTION, ZONE 14ND 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

PROJECT DEPTHS ARE AS FOLLOWS:  
BAR & ENTRANCE CHANNEL - 40 FEET  
NORTH BAY SAKMA TO MILE 5.0 - 30 FEET  
EUREKA CHANNEL, FIELDS LANDING CHANNEL & MILE 5.0 TO "N" STREET - 26 FEET  
1:30 INDICATES THE NUMBER AND BEGINNING OF A LINE OF SOUNDINGS.  
SOUNDINGS ARE BASED ON TIDE GAUGES REFERENCED TO U.S.C. & G.S. BENCH MARKS AS FOLLOWS:  
EUREKA & SAKMA CHANNELS - B.M. NO. 4 (1906) ELEV. 33.61' M.L.L.W.  
ENTRANCE & NORTH BAY CHANNELS - B.M. NO. 1 (1937) ELEV. 32.35' M.L.L.W.  
FIELDS LANDING CHANNEL - B.M. NO. 5 (1925) ELEV. 32.2' M.L.L.W.





# Redwood Marine Terminal II

93 acre former pulp mill

## Upland Aquaculture





# Redwood Marine Terminal II Aquaculture Business Cluster

- **Ocean Outfall**

- Existing permitted 4 foot diameter discharge pipe 1 ½ miles off Pacific Coast
- Approved State Lands Commission Lease for Aquaculture Discharge
- Applying for State Water Quality Discharge Permit for four (4) 50,000 sqft aquaculture operations

- **Saltwater**

- Permitted Baywater intake (seachest)
- Drilled saltwater well tested for salinity and volume

- **Freshwater**

- 30 million gallons per day available on property.

- **Approved Land Use Permits Coastal Development Permits**

- Indoor Aquaculture
- 21 acre subtidal

# Redwood Marine Terminal II



Water treatment system

- 1,300 ft. Dock
- 93 Acres

- Former Paper Pulp Mill
- Opened 1954 Closed 2010
- USEPA Brownfield
  - 2 million gallons chemicals removed
- \$5 million investment
- 730,000 kvh Solar System

- 20 tenants including

- Taylor Seafood (Oysters)
- Coast Seafood (Oysters)
- Starbird Mariculture
- Hagfish
- Nordic Aquaculture (Salmon or Steelhead)



# Nordic Aquafarms

## Recirculating Aquaculture System

- Two Phases
- 600,000 sqft indoor
- \$400,000 investment

- Hatchery
- Fish processing
- Water treatment







Nordic Aquafarms presentation  
for Humboldt County

Nordic Aquafarms Inc  
July 23<sup>rd</sup>, 2019

Our Fredrikstad Seafoods Facility



Nordic Aquafarms, which is currently in the process of building one of the largest salmon farming operations in Belfast, Maine, has announced it will invest up to another \$400 million to [build a second recirculating aquaculture system](#) in Eureka, California.

**“The Humboldt location will enable us to reach more than 50 million people within a 12-hour drive or less, which reduces the cost and environmental impact of transportation while supplying the market with super-fresh, sustainably raised local fish.” Marianne Ness Nordic Aquafarms**

**“We have been looking for an anchor project that will be a catalyst for attracting and developing an aquaculture cluster,”**

The Nordic Aquafarms facility will be located close to other seafood producers, including Taylor Shellfish and Coastal Shellfish, however, [Undercurrent News](#) states that there is ample capacity at the location for more seafood farming operations, as Nordic will only use 6 million of the 30 million gallons of approved ocean outfall.



# Humboldt Bay Harbor, Recreation, & Conservation District



## Mariculture Pre-Permitting Program



Larry Oetker  
Executive Director







# Approved Pre-permitted Sub-tidal Sites

- EIR & all permits approved
- 3 Areas with multiple subareas
- 21 new acres established
- Methods
  - Shellfish FLUPSY
  - Shellfish Rack & Bag
  - Shellfish Cultch & longline
  - Macroalgae longline



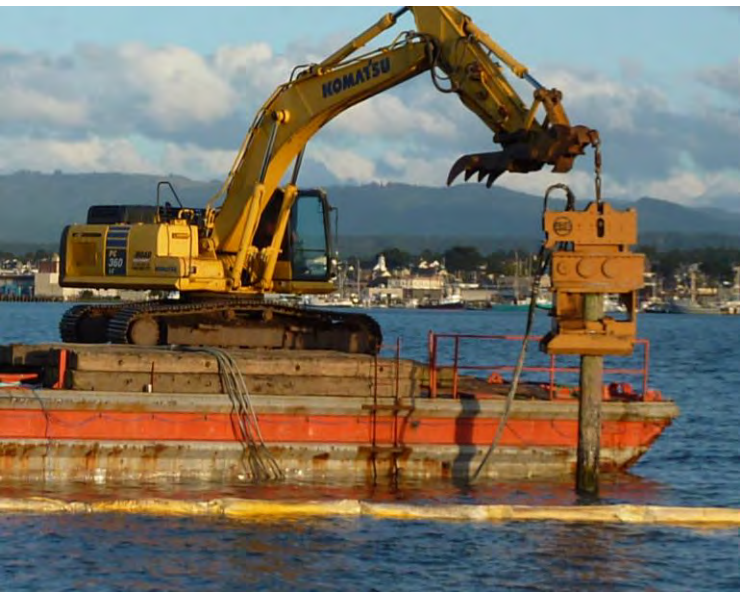
# Subtidal – Kumamoto and Pacify Oyster and Manilla Clam Nursery



Also includes floating docks and piles at one site.

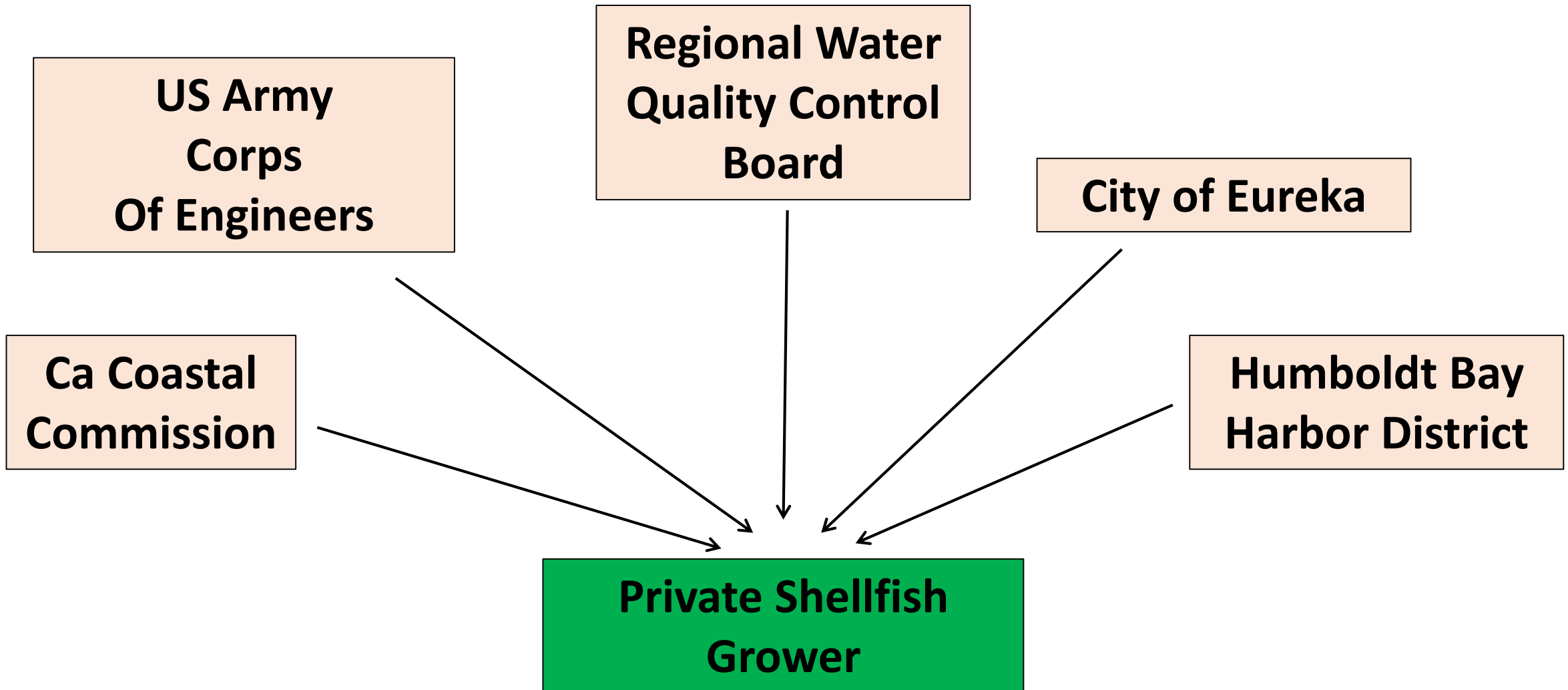




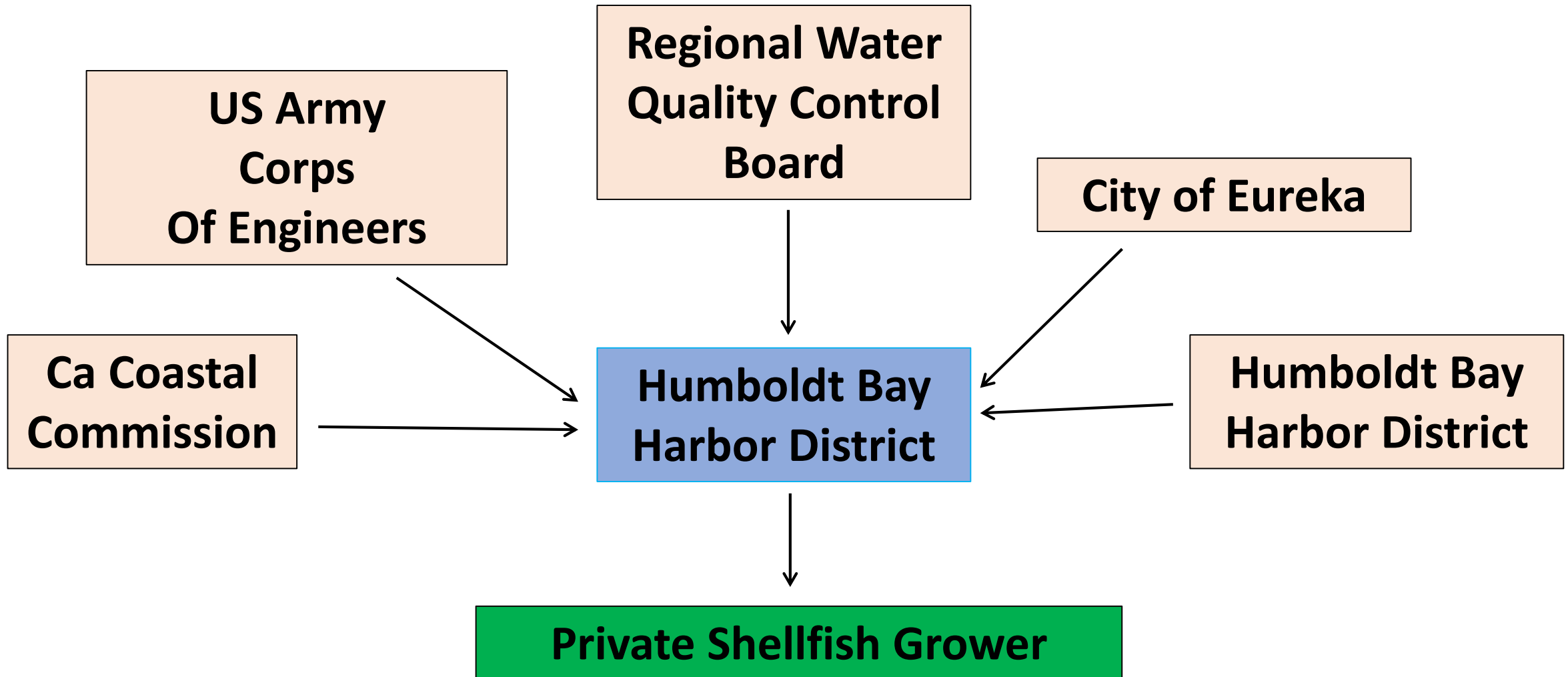




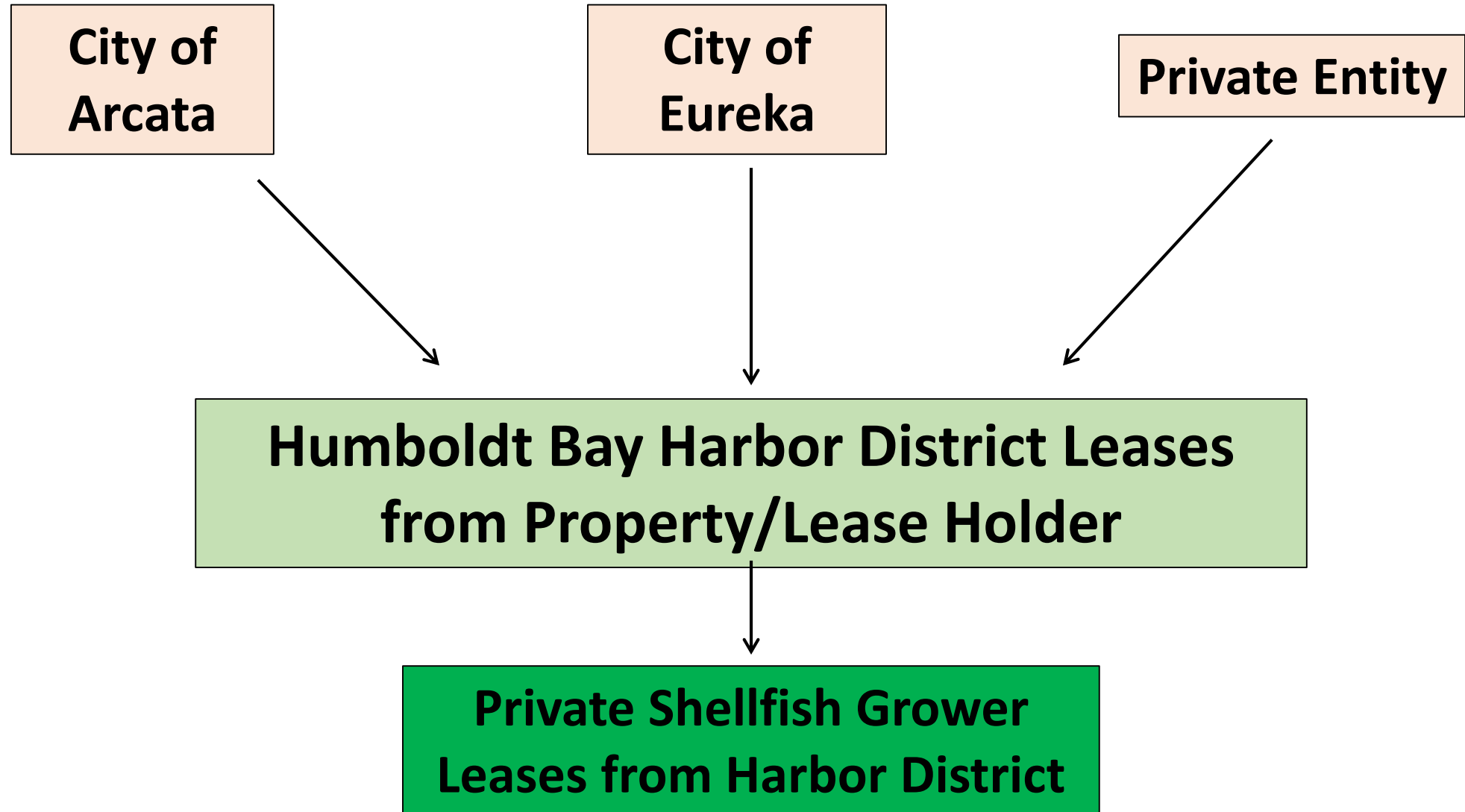
# Traditional Regulatory Approval Process



# New Streamlined Regulatory Approval Process



# Lease Process



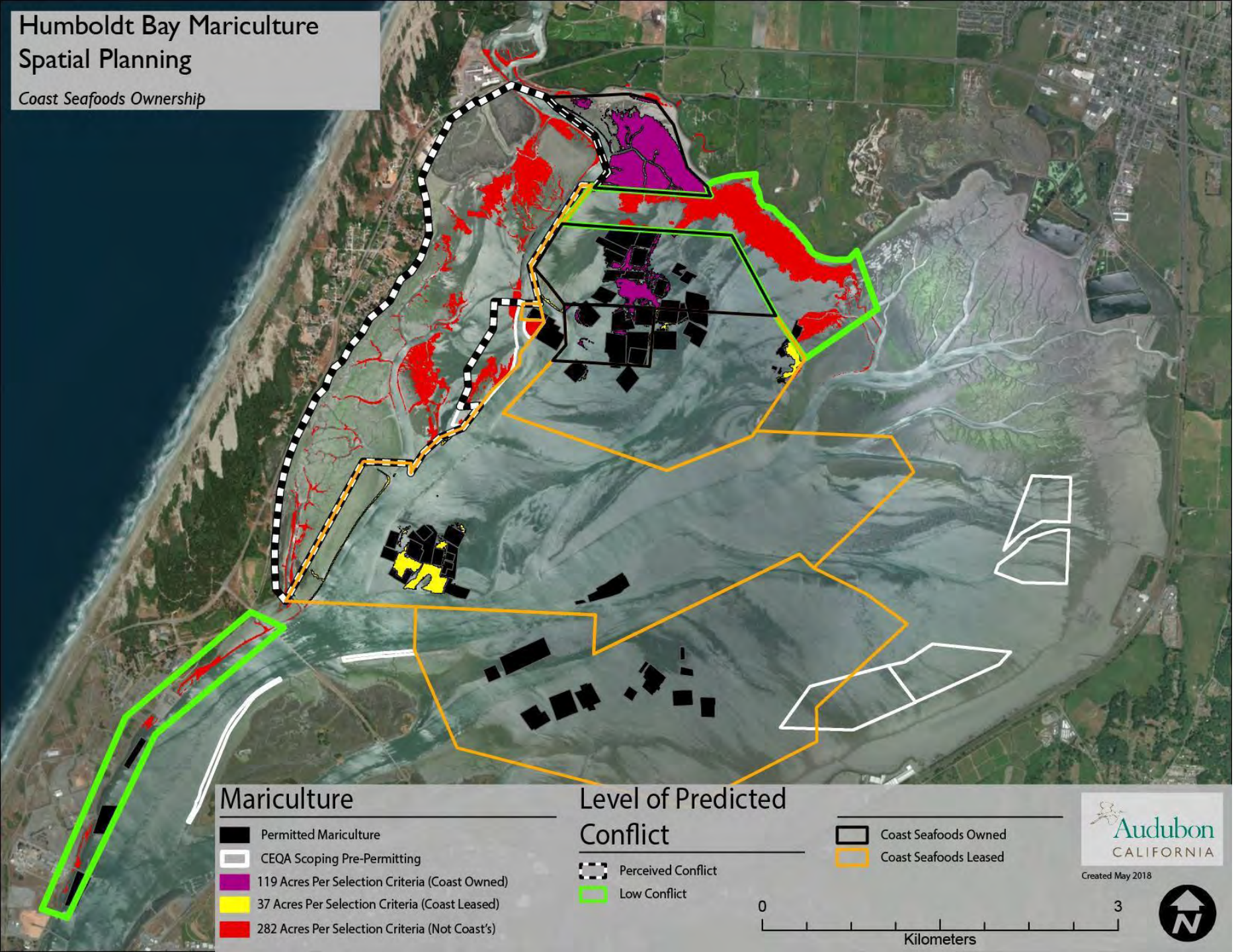


# Approved Pre-permitted Inter-tidal Standards by Area

Site Name	Size (Acres)	Surface Area of Aquaculture (SQFT)	Volume of Aquaculture (Cubic Feet)	Fill/Mooring Footprint (SQFT)	Biomass Shellfish (lbs dry weight)
Subtidal 1	6.6	41,752	127,756	673	1,426
Subtidal 2	8.6	54370	166,472	878	1,859
Subtidal 3	6.0	37,932	116,142	612	1,296
<b>TOTAL</b>	<b>21.2</b>	<b>134,054</b>	<b>410,370</b>	<b>2,163</b>	<b>4,581</b>

Humboldt Bay Mariculture  
Spatial Planning

Coast Seafoods Ownership



**Existing  
Inter-tidal  
Sites**





# Proposed New Pre-permitted Inter-tidal Sites

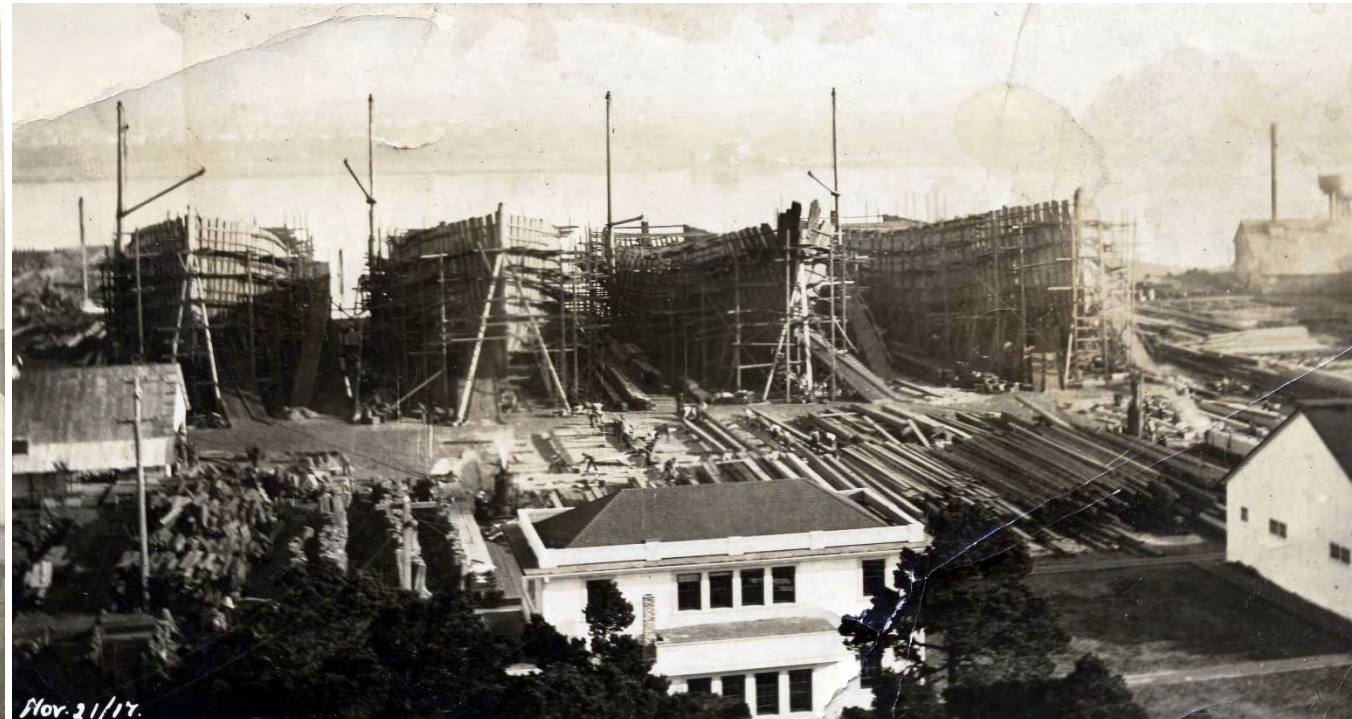
- EIR Circulated in November 2018
- Approximately 200 new acres available
- 5 Areas with multiple subareas
- Methods (Shellfish)
  - Rack & Bag
  - Cultch & Longline
  - Basket on Longline





# Humboldt Bay

*We have an amazing history, and an even greater future!!!*







# North Coast Offshore Wind Feasibility Analysis

## Introduction

Offshore wind energy can play an important role in helping California meet its medium- and long-term renewable energy targets and greenhouse gas emission reduction goals. The National Renewable Energy Laboratory (NREL) estimates that California's offshore wind has the technical potential to produce 392 TWh per year, or 150% of the state's electrical demand. Specifically, the offshore wind resource near Humboldt Bay is among the best in the nation, classified as outstanding to superb, with wind power density often exceeding 600 W/m<sup>2</sup> at a 50 m height. Furthermore, offshore wind offers a higher plant capacity factor than other renewable energy sources being developed in the state, and available wind data indicate that the offshore wind resource is considerably less variable on a diurnal basis than other intermittent renewable energy sources such as solar and land-based wind. High capacity factor wind sites like Humboldt that also have a favorable diurnal wind speed pattern can complement solar generation by providing more consistent power flow to the grid, which can help address the duck curve while providing added resiliency through diversification of the state's renewable energy generation portfolio. Looking to the future, these offshore wind resources can play an important role in reaching the state's goal, as articulated by Governor Brown in Executive Order B-55-18, of carbon neutrality by 2045.

Offshore wind energy is common in Europe and at an early stage of commercialization on the east coast of the U.S. However, California has not yet seen offshore wind deployment, in part due to deeper near-shore conditions which necessitate emerging technology like floating turbine foundations. Research, development, and demonstration of these technologies will generate scientific data to inform responsible development, create jobs, and help establish our state as a key player in the offshore renewables market. On the other hand, failure to do so will likely result in lost opportunities as other states and countries leap ahead of California in this green technology industry. In addition, special conditions found on the California coast, including steep ocean floor gradients, sensitive ecosystems, seismic activity, and protected coastlines, call for research and development in order to responsibly realize offshore wind's energy generation potential for California. Engaging California's coastal communities, who have the most to lose from climate change induced sea level rise, in early research and development efforts will be critical for successful future development efforts. Hosting offshore wind installations is one way these communities can take action to help mitigate climate change impacts, add resiliency to their electricity supply, and spur economic opportunity.

Multiple commercial wind developers have recognized Humboldt as a promising offshore wind site. Humboldt Bay is the only deep-water port in the state north of San Francisco with substantial port infrastructure and power interconnection capacity. Moreover, it does not appear to have national security restrictions that are associated with some other California coastal areas. Investments in transmission infrastructure and harbor improvements will be needed to support offshore wind development at scale. These improvements will bring jobs to the region and will benefit stakeholders like the local fishing industry. With the right approach and outreach plan, community support is likely to be strong. PG&E's Humboldt Bay Generating Station (HBGS) is well suited to compliment an offshore wind development

due to modular design, which allows it to respond quickly to changing grid conditions. At the same time, the recently released Humboldt Bay Area Plan Sea Level Rise Vulnerability Assessment highlights the importance of considering sea level rise and associated factors when considering new technology deployment. Responsible offshore wind development that considers such projections could be an important long-term strategy to add resiliency to Humboldt County’s electricity supply as sea level rises.

The project team, led by the Schatz Energy Research Center (SERC), proposes to conduct analysis to assess the feasibility of offshore wind development in the Humboldt Bay region of California. This document summarizes that opportunity, describes the work that would be completed, the deliverables that would be provided, the project budget, schedule, and briefly introduces our project team.

### **Table of Contents:**

Introduction .....	1
Project Task Modules.....	3
Deliverables .....	10
Project Budget.....	12
Project Schedule.....	11
Project Team .....	10



## Project Task Modules

This section presents the proposed work to be completed to assess the potential for offshore wind energy development in the waters offshore from Humboldt County California. The work is organized into six Task Modules, which will be funded by different sources as shown in Table 1, below. Funding has been awarded from the Ocean Protection Council (OPC) for Tasks 3 through 6. Funding for tasks 1 and 2 is being pursued from the Bureau of Ocean Energy Management (BOEM) with Pacific Gas and Electric providing in-kind support on Task 2. All proposed task descriptions and timelines are based on current plans and may be subject to change within constraints allowed by project funders and partner agreements.

*Table 1. Proposed task modules and potential funding sources*

<b>Task Module</b>	<b>Funding Source</b>
1 Offshore Wind Generation and Load Compatibility Assessment	BOEM (proposed)
2 Electricity Grid Constraints, Mitigation Measures, and Associated Costs	BOEM (proposed) and PG&E
3 Likely and Potential Environmental Impacts	OPC
4 Coastal Infrastructure Modifications and their Impact on Ocean Environment, Climate Resiliency, and Local Stakeholders	OPC
5 Likely Stakeholder Benefits and Impacts	OPC
6 Policy Evaluation and Recommendations	OPC

These task modules are described in more detail in the pages below, including descriptions of subtasks and which team members will lead the subtask effort and which team members will collaborate on a given subtask in a significant way. Team members not listed as either lead or collaborator on a given subtask will be kept informed and may still participate in the work as appropriate.

## Task Module 1: Offshore Wind Generation and Load Compatibility Assessment

The project team will use existing data sources to understand and characterize the Humboldt offshore wind resource and its potential for integration into the electric grid from an economic and regulatory perspective. For a selection of potential offshore wind generator installation locations, we will characterize the predictable seasonal and diurnal patterns and the associated stochastic variation expected in the power generated by offshore wind turbines. Expected patterns of wind generation will be compared to the patterns present in the historical and projected 2030 California and Humboldt area electrical loads. In addition, we will consider how the capabilities of the existing 160 MW PG&E Humboldt Bay Power Generation Station could support integration of the wind generated electricity into the grid.

Subtask	Brief Description	Lead	Collaborators
1.1	Wind resource characterization	SERC	None
1.2	Generation and load profile compatibility check	SERC	PG&E
1.3	Clarify operational characteristics of the Humboldt Bay Power Plant with regards to ramp rates and wind power compatibility	SERC	PG&E

## Task Module 2: Electricity Grid Constraints, Mitigation Measures, and Associated Costs

The project team will determine the lower and upper bounds on the installed capacity of offshore wind generators in the Humboldt Bay Region that would be set by the limits of existing infrastructure and by the requirements for economically viable commercial development. At present, the power capacity of the transmission lines (ca. 60-70 MW) linking the Humboldt County grid to the larger California grid, the design of local grid infrastructure, and the existing loads in Humboldt County (averaging 110 MW with a minimum load of about 70 MW) limit the amount of wind power generation that could be used. In addition, existing local grid management requirements and Central Valley transmission constraints must be considered to determine the bounds of project scale. Additional tasks in this area would involve estimating the investment required to relax the bounds set by existing infrastructure and evaluating potential impacts to the value streams of the HBGS from potential operational changes due to offshore wind power input to the local grid.

A high-level evaluation of a conceptual undersea transmission system between Humboldt Bay Area and the San Francisco Bay Area will also be included under Task Module 2. The primary purpose of such a system would be for exporting offshore wind energy from the Humboldt region to loads in the San Francisco Bay Area. This system could also provide redundancy for existing transmission lines that serve loads in Humboldt Bay. The project team will analyze the most likely and potential environmental impacts associated with undersea cable development, including impacts on marine ecosystems, resident and migratory birds, benthic organisms, marine mammals, fish, Endangered Species Act (ESA, both state and federal) listed species, and other relevant organisms in offshore and onshore locations. The environmental analysis conducted under Task Module 3 will be used to produce a statement of applicability of the environmental results to the undersea transmission cable concept. The environmental review will also summarize additional considerations for the subsea cable that would need to be evaluated for subsequent projects.

Subtask	Brief Description	Lead	Collaborators
2.1	Characterize lower capacity bound for viable commercial investment in offshore wind	Steve Hackett	SERC
2.2	Run regional power flow model including three offshore wind development scales to identify required upgrades	PG&E	SERC
2.3	Evaluate interconnection and transmission upgrade costs and options	PG&E	SERC
2.4	Consult with CAISO to evaluate potential transmission constraints to connect offshore power generation to larger regions	PG&E	SERC
2.5	Preliminary Analysis of Undersea Transmission Line Concept to transmit power to San Francisco Bay Area	SERC	PG&E, HT Harvey, Mott MacDonald, Dr. Hackett



### Task Module 3: Likely and Potential Environmental Impacts

The project team will analyze the most likely and potential environmental impacts associated with offshore wind development, including impacts on marine ecosystems, resident and migratory birds, benthic organisms, marine mammals, fish, Endangered Species Act (ESA, both state and federal) listed species, and other relevant organisms in offshore and onshore locations. The analysis will include an assessment of pathways for permitting an offshore wind development in the Humboldt Bay Area, including consideration of environmental and other regulatory issues associated with federal, state, and local permitting processes.

This study will analyze the environmental impact of the wind farm, transmission system, and required infrastructure changes that are outlined in Task Modules 1, 2, and 4, respectively. Three scenarios will be examined including pilot-scale (e.g., 50 MW), modest commercial-scale (e.g., 150 MW), and large commercial-scale (e.g., 1,500 MW) development efforts. The analysis will consider terrestrial and marine environmental impacts from:

- Wind farm size and location identified in Task 1
- Cable landing locations, subsea cables, and electric grid connection equipment identified in Task 2
- Port development, harbor deepening, and other possible infrastructure changes identified in Task 4
- Other potential environmental changes and impacts

Subtask	Brief Description	Lead	Collaborators
3.1	Baseline environmental characteristics	HT Harvey	SERC
3.2	Likely and potential environmental impacts	HT Harvey	SERC
3.3	Permitting pathways and sequencing	HT Harvey	SERC

## Task Module 4: Coastal Infrastructure Modifications and their Impact on Ocean Environment, Climate Resiliency, and Local Stakeholders

Development of offshore wind energy will bring about changes that extend beyond the perimeter of the wind farm. Coastal infrastructure modifications, industry development, and port improvements that come along with offshore wind could have a lasting impact on coastal ecosystems and human interactions with ocean resources. In order to accurately assess the environmental outcomes and analyze the stakeholder benefits and impacts, this Task Module will create a basis for understanding the future attributes of a Humboldt Bay and coastline that are able to support an offshore wind industry. The results outlined in this Task Module will provide key inputs for the environmental analysis (Task Module 3) and stakeholder interviews (Task Module 5). Infrastructure upgrades identified here will be analyzed in the environmental review Task Module. This will include the environmental impact of port development, harbor deepening, and other possible infrastructure changes. Similarly, analysis conducted in this Task Module will be used as inputs for the stakeholder analysis Task Module to identify stakeholder perspectives regarding possible co-benefits and conflicts associated with infrastructure upgrades or other related changes.

This Task will assess the current conditions of coastal infrastructure and describe the anticipated upgrades required to serve an offshore wind industry by conducting site visits, reviewing documentation, and interviewing with local stakeholders. Expected modifications to the Humboldt Bay harbor and coastline will be characterized in a database and shared with the project team to incorporate as a basis for the environmental analysis and stakeholder outreach.

Infrastructure upgrades will also be viewed from the perspective of other ocean resource uses to identify areas where additional benefits could occur through parallel development. Using stakeholders interviews and policy review, the project team will determine what actions or investments the state and/or local government could make to increase the co-benefits provided by an offshore wind facility regarding resilience, job creation, other business sectors, and ocean resources.

Lastly, the analysis will consider how development of an offshore wind generation system could influence the region's resilience to climate change or a major seismic or tsunami event. The report will use the Humboldt Bay Area Plan Sea Level Rise Vulnerability Assessment to evaluate likely and potential impacts to offshore wind development and resiliency benefits with respect to potential sea level rise.

Subtask	Brief Description	Lead	Collaborators
4.1	Stakeholder interviews and inventory of relevant infrastructure	Mott MacDonald	SERC
4.2	Characterize upgrades to coastal infrastructure	Mott MacDonald	Steve Hackett, SERC
4.3	Identify actions to increase co-benefits to ocean resources	Steve Hackett	Laurie Richmond, SERC
4.4	Climate resiliency and impacts on offshore wind	SERC	Mott MacDonald, PG&E

## Task Module 5: Analysis of Stakeholder Benefits and Impacts

The project team will identify stakeholder benefits and concerns with regard to offshore wind energy development, where applicable, and determine approaches to address identified concerns. Stakeholders include, but are not limited to, the Humboldt commercial and recreational fishing community, pleasure boaters, labor unions, environmental organizations, regulators, barge and other maritime transport operations, marine tourism businesses (e.g., whale watching), local governments, tribes, the general business community, PG&E, and others. Additionally, the analysis will cover job creation and an assessment of skill requirements associated with development of an offshore wind project/industry.

Subtask	Brief Description	Lead	Collaborators
5.1	Research impacts to other communities who have experienced an offshore wind project deployment	SERC	Laurie Richmond, Steve Hackett, SERC
5.2	Economic Benefits and Impacts to Stakeholders	Steve Hackett	Laurie Richmond, HT Harvey, SERC
5.3	Social Benefits and Impacts to Stakeholders	SERC	Laurie Richmond, Steve Hackett, SERC
5.4	Stakeholder Interviews	Laurie Richmond	Steve Hackett, SERC
5.5	Participate in local public meetings organized by others	Laurie Richmond	Steve Hackett, SERC



## Task Module 6: Policy Evaluation and Recommendations

The project team will investigate the implications of federal, state, and local policy and regulatory decisions currently under consideration that relate to the development of offshore wind in California and determine if alterations to policies and regulatory decisions would make offshore wind development more likely. This analysis could involve recommendations to agencies at the federal (e.g. BOEM), state (e.g. PUC, ARB, Natural Resources Agency, CEC, Coastal Commission), and local (e.g. Humboldt Bay Harbor District, Humboldt County Board of Supervisors) levels.

Subtask	Brief Description	Lead	Collaborators
6.1	Investigate federal policy and regulatory status and direction (FERC, BOEM, for example)	SERC	Steve Hackett, HT Harvey, Mott MacDonald, PG&E
6.2	Investigate State policy and regulatory status and direction (CPUC, CAISO, for example)	SERC	Steve Hackett, PG&E
6.3	Investigate local policy considerations (County General Plan, for example)	SERC	Steve Hackett, HT Harvey

## Deliverables

Several interim deliverables will be developed throughout the project to communicate progress within the project team. All of the results from the project will be summarized in the final report, which will contain the following chapters at a minimum:

- Executive Summary
- Introduction
- Offshore Wind Generation and Load Compatibility Assessment
- Electricity Grid Constraints, Mitigation Measures, and Associated Costs
- Likely and Potential Environmental Impacts
- Coastal Infrastructure Modifications and their Impact on Ocean Environment, Climate Resiliency, and Local Stakeholders
- Analysis of Stakeholder Benefits and Impacts
- Policy Evaluation and Recommendations
- Conclusions

## Project Team

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- Jon Stallman and colleagues, Pacific Gas & Electric
- Aaron Porter, Shane Phillips, and colleagues, Mott MacDonald
- Dr. Steve Hackett, Economics Department, Humboldt State University
- Dr. Laurie Richmond, Environmental Science and Management, Humboldt State University

## Project Schedule

The project will be completed within 12 months of receiving a signed contract. The project timeline is shown in Table 2, assuming a start date of January 1, 2019. The timeline will shift forward or backward depending on the actual start date of the project. Approximate start and end dates for each subtask are shown in the timeline. Project management and writing the final report are broken out at the bottom of the timeline for clarity.

Table 2. Project timeline for OPC tasks assuming a January 1, 2019 start date (the timing and sequence of activities is tentative and subject to change).

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1 Likely and Potential Environmental Impacts</b>												
1.1 Wind resource characterization												
1.2 Generation and load compatibility												
1.3 Compatibility with Humboldt Bay PP												
<b>2 Likely and Potential Environmental Impacts</b>												
2.1 Economic Viability Analysis												
2.2 Identify transmission upgrades and cost												
2.3 Evaluate transmission upgrades												
2.4 Transmission contracting constraints												
2.5 Preliminary analysis of subsea cable												
<b>3 Likely and Potential Environmental Impacts</b>												
3.1 Baseline environmental characteristics												
3.2 Analysis of environmental impacts												
3.3 Permitting pathways and sequencing												
<b>4 Coastal Infrastructure Modifications and their Impact on Environment, Climate Resiliency, and Stakeholders</b>												
4.1 Inventory of relevant infrastructure												
4.2 Characterize required upgrades												
4.3 Identify action to increase co-benefits												
4.4 Climate resiliency of offshore wind												
<b>5 Analysis of Stakeholder Benefits and Impacts</b>												
5.1 Research impact to other communities												
5.2 Economic benefits and impacts												
5.3 Social benefits and impacts												
5.4 Stakeholder interviews												
5.5 Participate in local meetings												
<b>6 Policy Evaluation and Recommendations</b>												
6.1 Federal policy considerations												
6.2 State policy considerations												
6.3 Local policy considerations												
<b>Project Management and Administrative</b>												
Project management												
Write final report												



# **The California Offshore Wind Project: A Vision for Industry Growth**



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# A Letter from the American Jobs Project

California is ready for a new vision and bold leadership. We are faced with dire and complex challenges that include eliminating poverty and averting a climate crisis. To solve these challenges, state leaders must embrace new ideas, industries, and policies to create the economic and environmental future we deserve.

Offshore wind can be California's next legacy—a new industry, built from the ground up, that invites shared prosperity, spurs innovation, and respects our natural treasures.

Although California typically leads on climate and renewable energy issues, we are late to the game on offshore wind. Offshore wind has already taken off in Europe, Asia, and now the United States. Governors from New York, Massachusetts, New Jersey, and others are competing for this new market—setting offshore wind targets, creating new programs, and recruiting firms to their state.<sup>1</sup>

While not first, California can still lead, especially in the deployment of floating offshore wind turbines on the Pacific Coast. We have Silicon Valley in our backyard; more venture capital than any other state; a diverse workforce, the brightest minds in the technology, engineering, and environmental communities; and one of the strongest wind resources in the nation.<sup>2</sup> Because offshore wind is ready to be deployed and firms want to invest in our state, it is time to seize this opportunity.

To be clear, creating an offshore wind industry in California will require significant time and investment. It is unlike any industry we have seen, as it calls for collaboration between an unprecedented number of agencies and stakeholders across the federal, state, and local levels. Infrastructure investments and innovations will be needed to retool and revitalize ports and build new transmission lines. Tradeoffs will inevitably be made: What are the environmental concerns with offshore wind development? How will offshore wind impact competing uses of ocean resources?

If the climate and economic benefits justify the investments in offshore wind, then California's leaders will have other critical questions. How can California become a leading hub for offshore wind deployment? What values do we want this industry to reflect? How will we build an inclusive economy that creates opportunities for all Californians?

This report analyzes the potential economic benefits of a California offshore wind industry and provides state and local leaders with high-level strategies to facilitate innovation, help businesses grow, and develop the workforce. The American Jobs Project empowers state and local leaders to build prosperous and equitable renewable energy economies that will transform our nation's energy future.

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# About Us

## **American Jobs Project**

The American Jobs Project is a nonprofit, nonpartisan, think-and-do tank focused on creating good-paying jobs in advanced energy and manufacturing through a bottom-up, data-driven, 360° economic development approach. Our experts tailor best practice strategies for bolstering advanced energy and manufacturing, identify assets across the value chain, estimate an industry's job-supporting potential, and support stakeholder-led initiatives by communicating ideas and analyses. Through engagement with a broad cross-section of stakeholders, we develop a shared vision of effective strategies to leverage the unique competitive advantages offered by each state and generate positive economic impacts.

## **Schatz Energy Research Center, Humboldt State University**

The Schatz Energy Research Center at Humboldt State University is working to establish clean energy technologies in our society. The Center, which was established in 1989, specializes in renewable energy, energy efficiency, and clean transportation systems. The work carried out by their team of over forty team members, including faculty, professional staff, and students, involves research and development, technology demonstration, project development, energy systems analysis, and education and training. In addition, they perform feasibility studies, resource assessments, and energy planning studies.

## **Pacific Ocean Energy Trust**

Pacific Ocean Energy Trust (POET) is a 501(c)(3) organization committed to the responsible development of marine renewable energy in the Pacific Region. Growing out of the Oregon Wave Energy Trust, POET brings ten years of experience working on issues relating to marine renewable energy development, with a special emphasis on policy and regulatory matters, better understanding of environmental effects of marine renewables, and stakeholder engagement. POET supports the development of all types of marine renewable technologies including offshore wind, tidal, and wave energy.

## **BVG Associates**

BVG Associates is an independent consultancy with a global outlook, specializing in the technology, industrialization, and economics of wind and marine energy generation systems. They are driven by a desire to make a real difference in the global renewable energy industry, delivering insight that comes from over 140 years of staff experience. Their team has the best objective knowledge of the market and supply chain for offshore wind, wave, and tidal energy. Their significant client base spans government, enabling bodies, investors, developers, turbine manufacturers, and other companies across the supply chain.

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This report was a collaborative effort based on insight from dozens of interviews and extensive literature reviews. Mary Collins was the lead author and director of research. Leah Daoud was the supporting author and lead researcher. Mike Blanch, Alun Roberts, and Andy Geissbuehler from BVG Associates led economic analysis, which was informed by Arne Olson, Kush Patel, and Sanderson Hull at Energy + Environmental Economics (E3). Mat Squillante led graphic design. Supporting researchers and fact checkers were Tiffany Wong, Santos Vazquez, Christopher Eldred, Madeleine Valdez, and Max Neumeyer. Our partners on this report, Arne Jacobson and Mark Severy of the Schatz Energy Research Center at Humboldt State University and Jason Busch from the Pacific Ocean Energy Trust, provided expert guidance and input. We thank our reviewers and collaborators who generously provided feedback on the report: Robert Collier (UC Berkeley Center for Labor Research and Education), Suzanne Tegen (Center for the New Energy Economy at Colorado State University), Sandy Aylesworth (Natural Resources Defense Council), Tyler Studds (EDPR North America), Steve Black (Steve Black Strategies), Larry Oetker (Humboldt Bay Harbor, Recreation and Conservation District), Jana Ganion (Blue Lake Rancheria), and Sage Welch (Sunstone Strategies).

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# Executive Summary

*California's offshore wind resources represent a significant opportunity to improve grid reliability, achieve clean energy and climate goals, and grow a new industry with a values-driven framework. If California pursues cluster-based strategies to achieve 18 GW of offshore wind, the state could support over 17,500 full-time equivalent jobs in 2045.*

The wheels are in motion for California's offshore wind industry. At the start of 2019, the first phases of the federal leasing process are underway—potentially leading to a lease for offshore wind as early as 2020—and domestic and international firms are eyeing California's market and creating strategic partnerships. Two entities, the Redwood Coast Energy Authority (RCEA) and Castle Wind, have proposed projects off the coast of Humboldt County and San Luis Obispo County, respectively.

Developer interest is warranted: With 112 GW of technical offshore wind resource potential along its coastline—enough to supply about 1.5 times the state's annual electric energy use—California has the eighth-highest resource potential in the United States.<sup>3</sup> As the state moves toward a zero-carbon electricity mix in 2045, offshore wind can provide value to the grid by balancing solar generation. Floating offshore wind technology, which is better suited for California due to its deep waters, is relatively new but has demonstrated impressive capacity factors. Scientists project that California's floating offshore wind turbines could reach capacity factors of over 70 percent, in other words, generating 70 percent of their maximum theoretical output. This capacity factor is two to three times that of solar, nearly twice that of land-based wind, and even greater than that of coal.<sup>4</sup>

In addition to grid reliability, offshore wind offers a number of other benefits to Californians, including the opportunity to develop a new industry from the ground up. We estimate that if California were to install 18 GW of offshore wind capacity by 2045, the state could support over 17,500 jobs in the offshore wind industry, related downstream industries, and surrounding economy in that year. However, the state will need to guide industry growth with a cluster-based approach: creating market certainty, training workers, and facilitating connections in its innovation ecosystem, among other strategies. Working hand in glove with key federal stakeholders such as the U.S. Navy will be needed to create win-win solutions for less restrictive maritime development.

Through extensive research and over forty interviews with stakeholders and experts in California, the authors assessed the current challenges and opportunities for offshore wind development. The report:

- Summarizes offshore wind activities in California to date;
- Presents the benefits of offshore wind in California;
- Outlines cluster-based strategies for economic development and current competitive advantages;
- Details development scenarios for offshore wind industry growth from 2019 to 2045 and associated economic impacts; and

- Suggests policy recommendations to pursue and investigate offshore wind in a holistic manner.

## Summary of Policy Recommendations

The report culminates in high-level recommendations for California’s leaders based on best practices in the United States and abroad. We recommend that the state bring a systems-level approach to offshore wind development that sets a broad vision for industry growth and considers near- and long-term industry needs and opportunities. While each recommendation can be viewed as a stand-alone option, the recommendations are intended to be complementary and would be more powerful if adopted as a package.

### **Policy 1: Appoint a California Offshore Wind Czar**

Growing California’s offshore wind industry will require comprehensive logistics and holistic planning efforts across the state, federal, and international levels. The governor should consider appointing a California Offshore Wind Czar to create and lead a vision for growth that aligns with the values of Californians and to serve as the primary point of contact for California’s strategic offshore wind efforts. The Czar could be responsible for coordinating activities among state agencies, fostering community programs, advocating for policy and procedural changes in the federal leasing process, building international relationships for knowledge exchange, and capturing domestic and foreign direct investment opportunities.

### **Policy 2: Set a Market Acceleration Target and Establish a Comprehensive Approach to Studies**

Currently, California has limited resources dedicated to sustainably building offshore wind projects and ensuring industry growth aligns with state values and leads to lower energy costs for ratepayers. By developing a state vision spurred by a market acceleration target, California leaders could prioritize areas of research that establish industry development guidelines and frameworks, survey potential impacts on coastal ecosystems, consider innovative financing mechanisms, and streamline project development, among other topics.

### **Policy 3: Establish a Phased Approach to Offshore Wind Workforce Development**

California boasts robust workforce training infrastructure that it can leverage to build a skilled and ready offshore wind workforce. Near-term activities could map workforce planning, convene stakeholder groups on best practice strategies, and target professionals interested in working in the offshore wind industry. Long-term efforts could help build a diverse and inclusive workforce, formalize partnerships between industry and training providers, and ensure investments in offshore wind safety training, operations and maintenance (O&M), monitoring and verification, and technology research and development.

### **Policy 4: Align Innovation and Access to Capital Policies with Industry Needs**

Offshore wind innovation is key to lowering energy costs, increasing grid integration, opening up new markets, protecting marine ecosystems, and improving working conditions. California leaders could facilitate offshore wind research, collaboration, knowledge exchange, and business development through joint industry projects, multidisciplinary academic programs,

industry/university partnerships, business accelerators, and access to capital mechanisms that help companies overcome barriers to market entry.

**Policy 5: Upgrade Ports and Establish Port Innovation Districts**

Globally, ports are the nucleus of offshore wind development, often serving as hubs for the assembly, staging, fabrication, and construction of turbine components and long-term O&M activities. As California cultivates its offshore wind industry, continued port planning and upgrades will be critical to support evolving industry operations. State activities could focus on upgrading key ports to catalyze early-stage projects, building port innovation districts, and prioritizing local community benefits in port revitalization efforts.