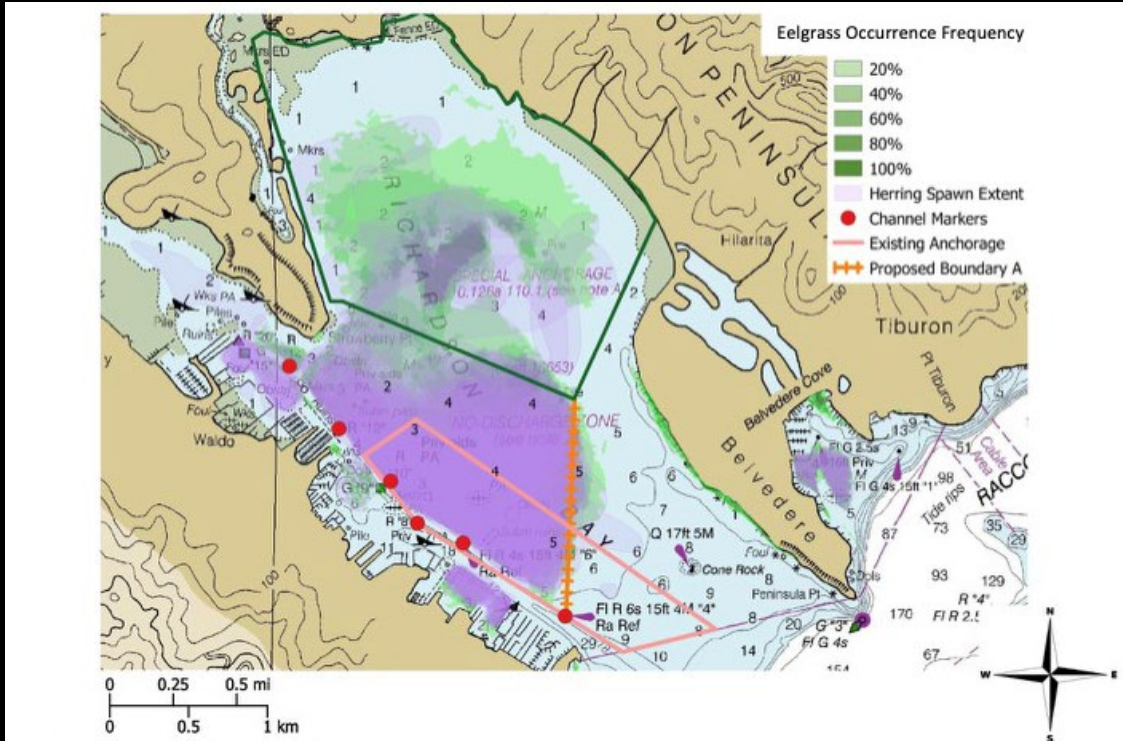




Richardson's Bay Mooring Field Layout Alternatives



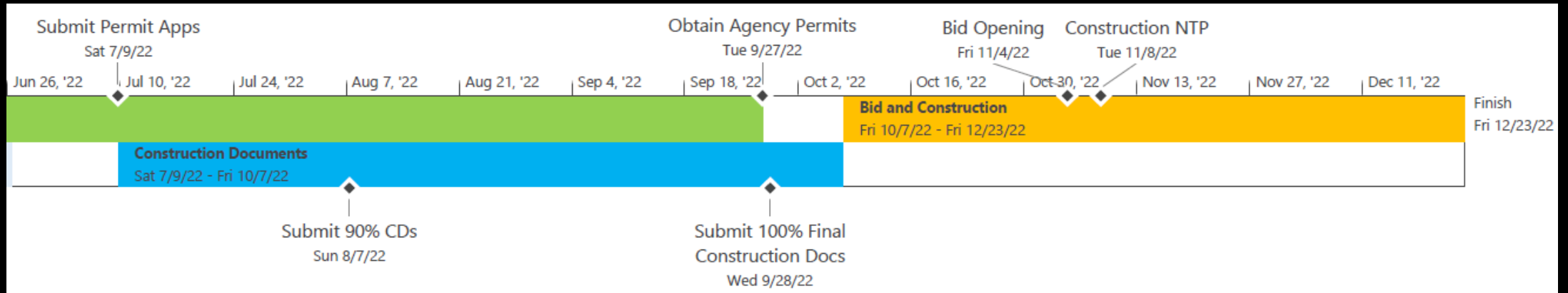
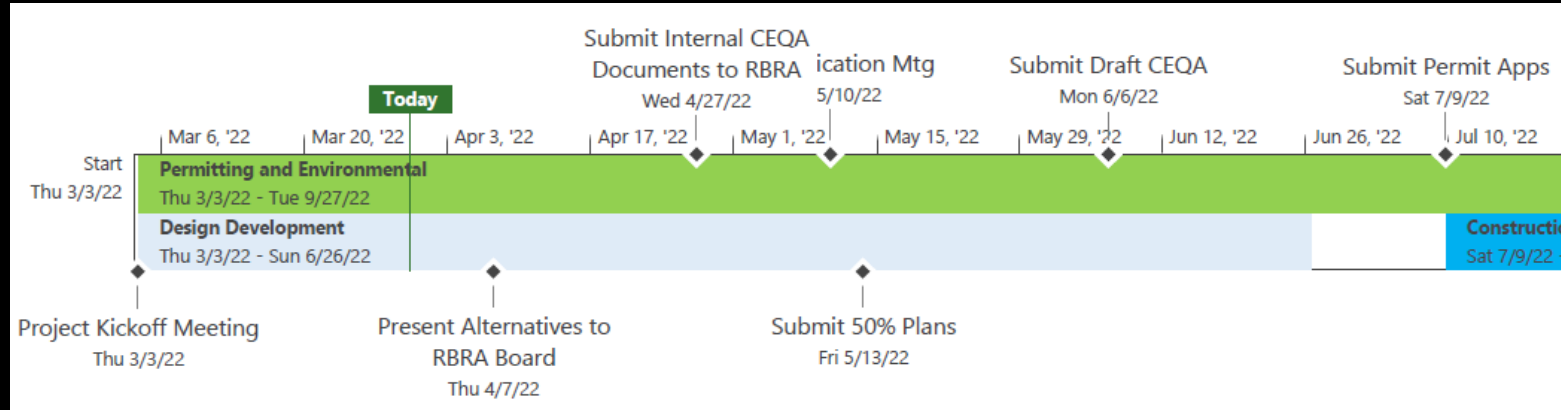
April 14, 2022



- August 2021, the RBRA entered into a Settlement Agreement (SA) with the Bay Conservation and Development Commission (BCDC)
- 3 mooring plan alternatives, 15-20 vessel moorings, various system type alternatives



→ Project Schedule

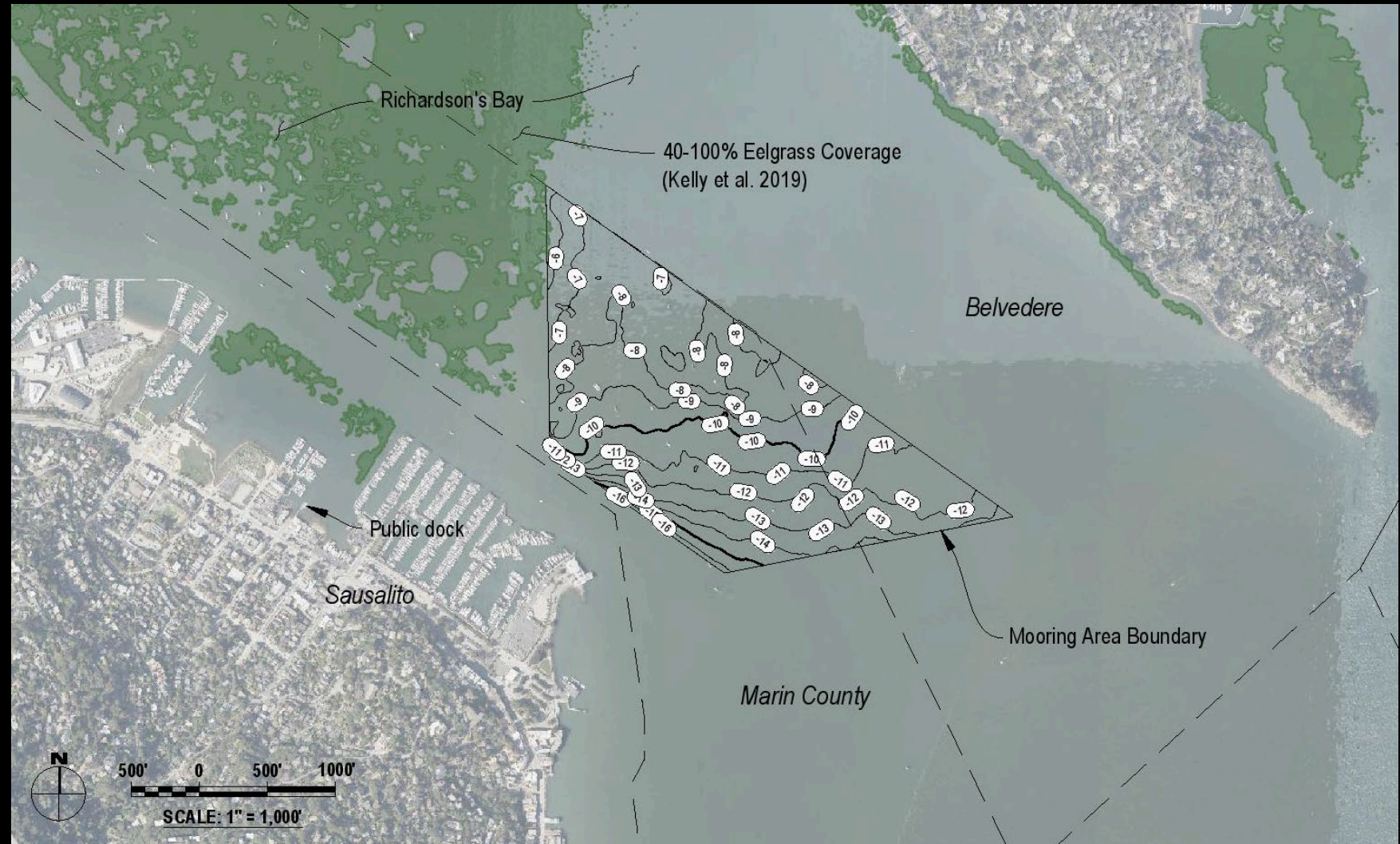


- Permitting/environmental efforts likely critical path for project
- Mooring installation before end of the year



→ Alternatives Development

- 3 mooring field layout alternatives presented within Mooring Area Boundary
- Determine a preferred alternative for design development
 - Preferred alternative to be carried through CEQA / permitting
 - Preferred alternative refined for second (May) RBRA meeting





→ Alternatives Development

Mooring Design Parameters (125' Radius Mooring)

Conventional Mooring

- Maximum water depth: 13 feet
- Scope: 4:1 (conventional moorings)
- Pendant Length: 10 feet
- Maximum boat length: 65 feet
- Buffer within mooring circle varies depending on vessel size

Conservation Mooring

- Maximum water depth: 13 feet
- Scope: 2:1 (conservation moorings)
- Pendant Length: 10 feet
- Maximum boat length: 65 feet
- ~20 foot buffer within mooring circle for 65 foot vessel, varies for smaller vessels depending on size

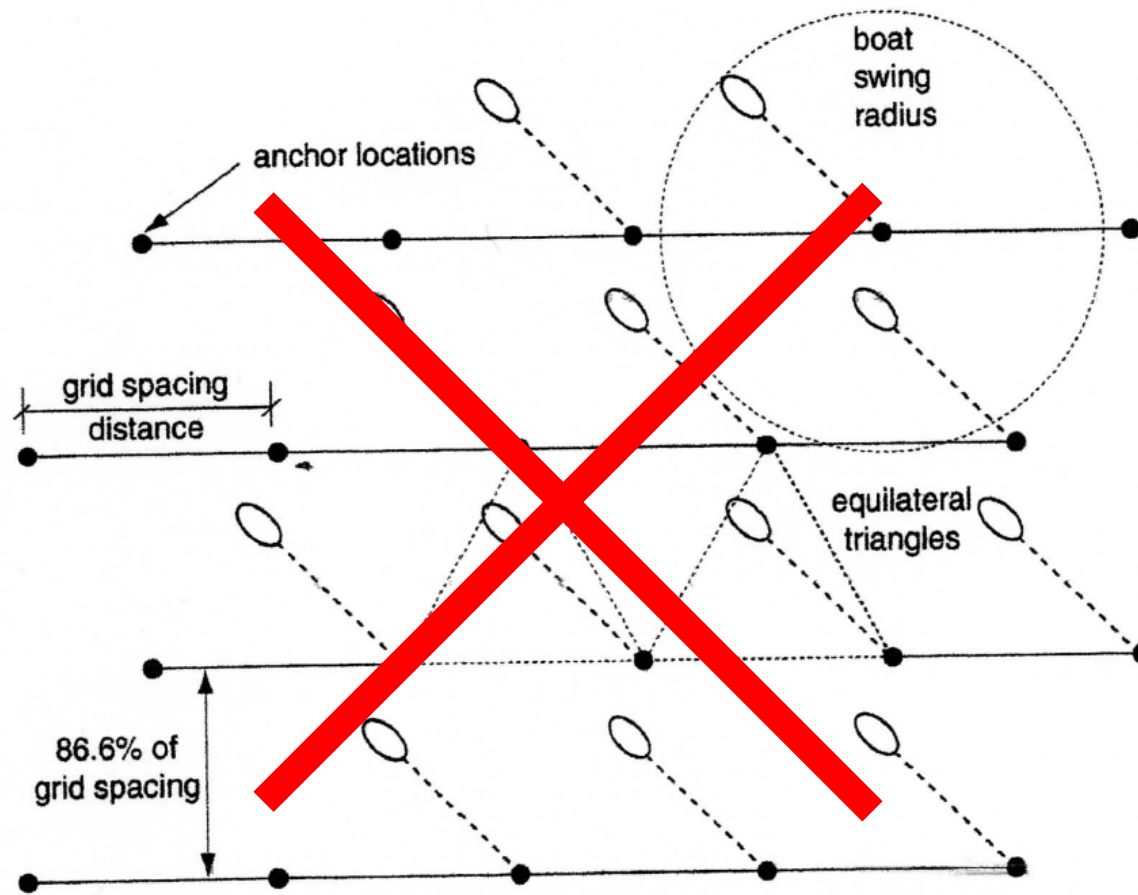
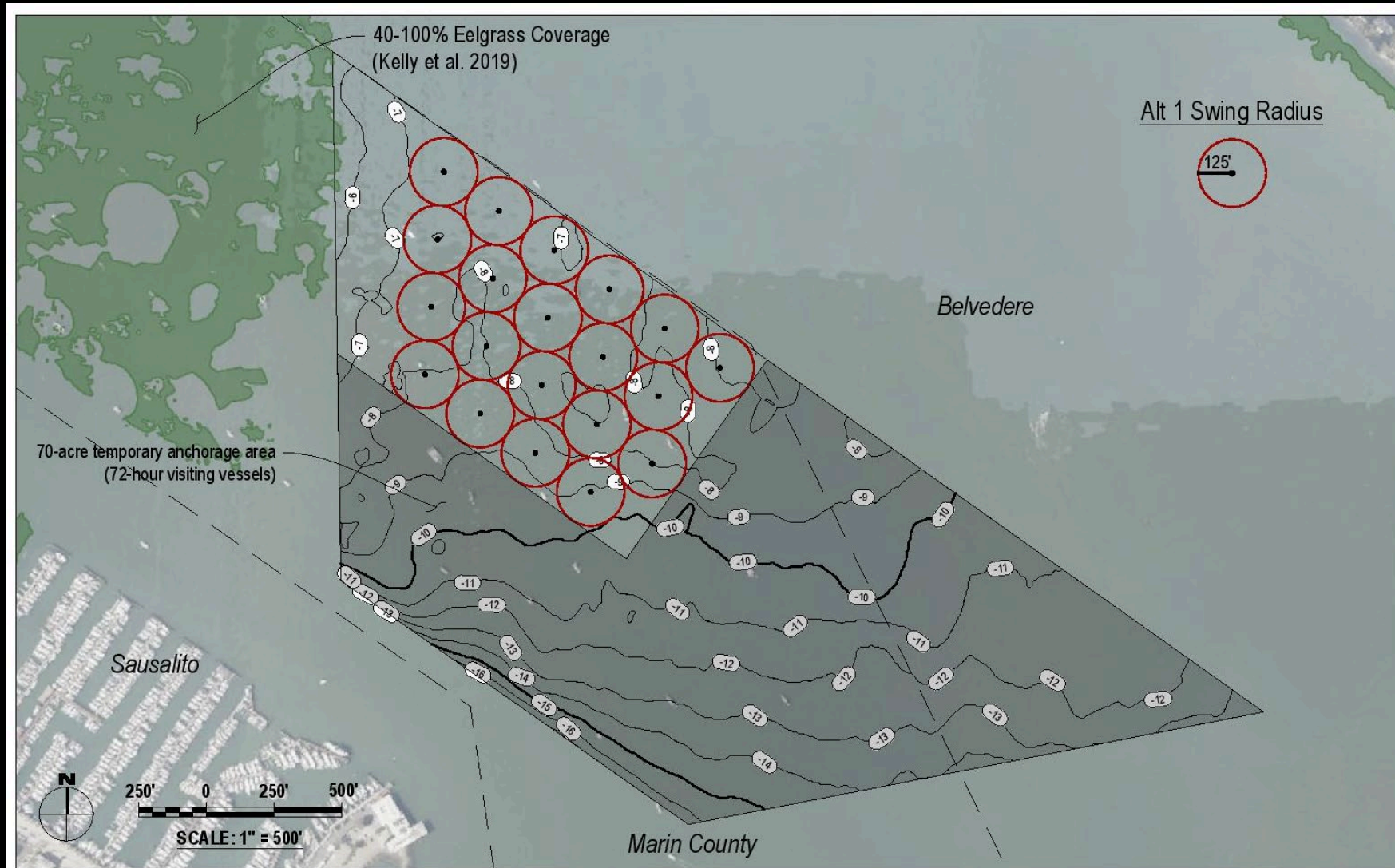


Figure 17-13. Commonly used mooring grid geometry.

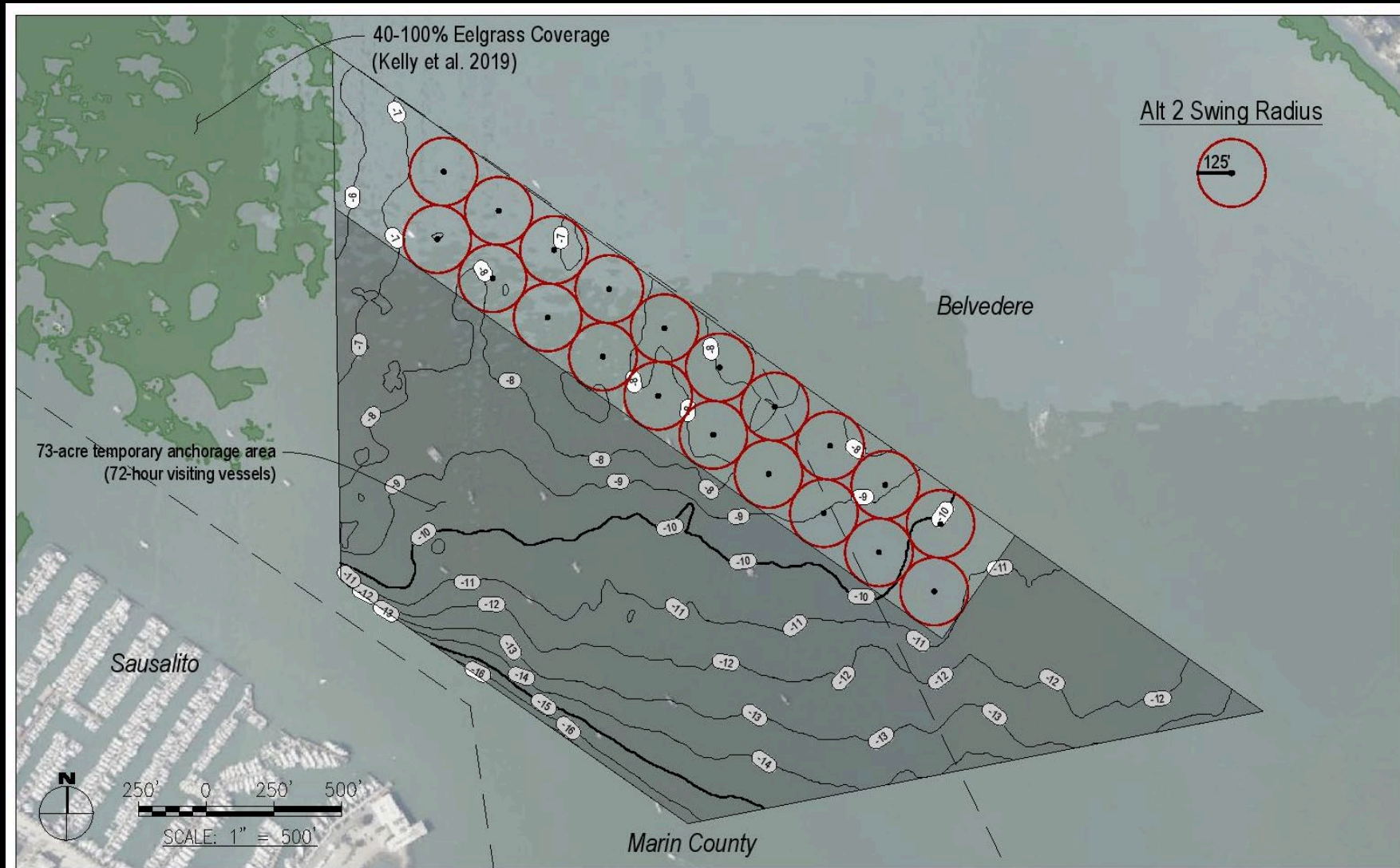


→ Layout Alternative 1



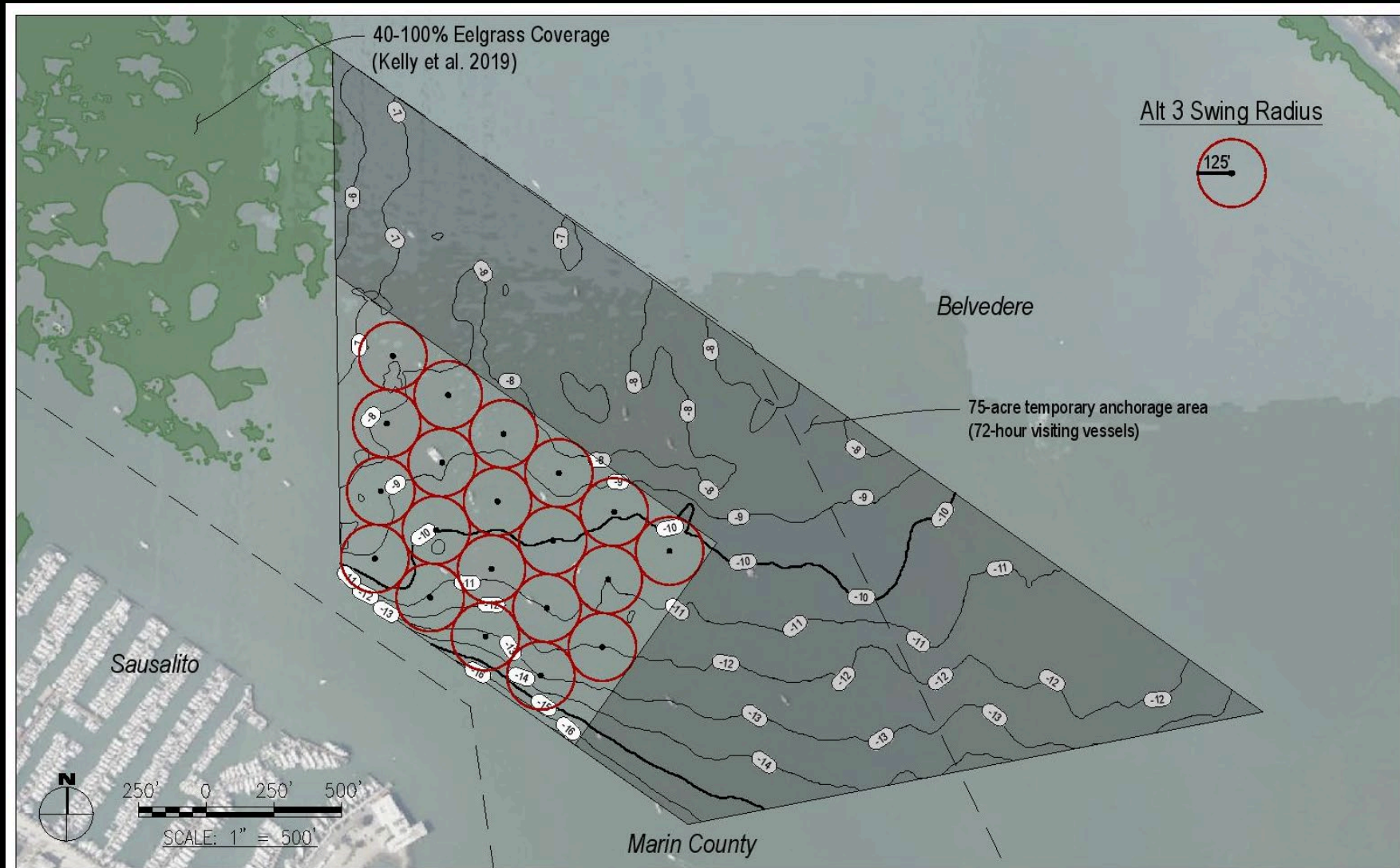


→ Layout Alternative 2





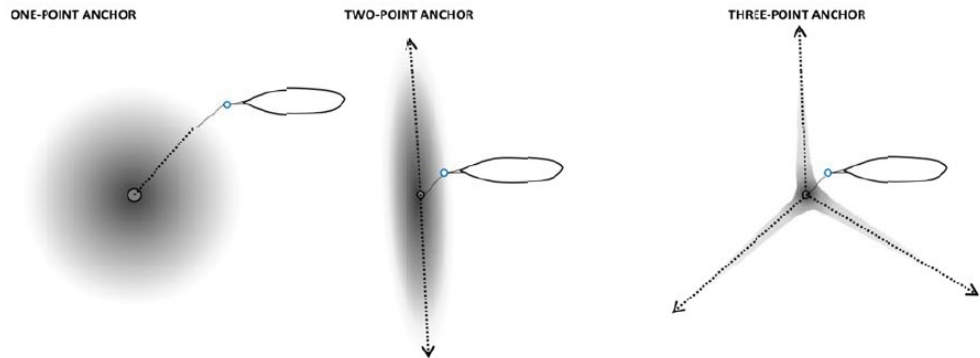
→ Layout Alternative 3





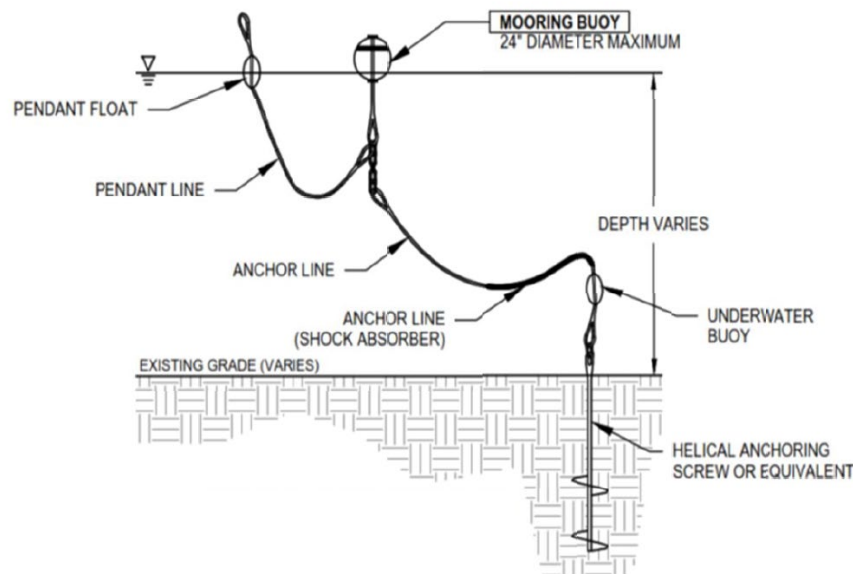
→ Mooring System Alternatives

Conventional



- Conventional mooring
 - One-, two-, and three-point anchors
- “Conservation” mooring
 - Various manufacturers: Seaflex, EzyRider, Eco-mooring, StormSoft, etc

“Conservation”



ezyrider mooring

The EzyRider Mooring Buoy moves freely up and down the stainless steel shaft to allow for tidal movement and wave action. Strong rubbers are connected from the base of the buoy to the bottom of the shaft that lift and tense hold the chain up off the sea bed floor. When in use, the vessel pulls the shaft off vertical forcing the buoy to slide up the shaft, and if the force is sufficient, eventually submerging the buoy. The partially or fully submerged buoy continually endeavours to surface, and it is this action that absorbs the vessel's inertia.

When fitted to the Offset Anchor System, the action of the EzyRider produces an offset load on each anchor. The advantage is that the angle of loading remains constant, reducing the vertical component, forcing any breaking load to overcome both the friction and torque effect of the anchors.

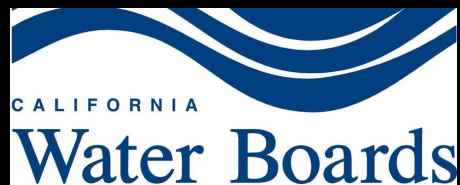
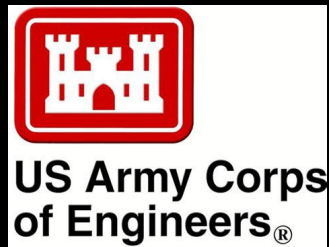
As the EzyRider buoy reaches full extension, it continues to absorb the energy of the vessel by resisting submergence.

- The EzyRider
- How It Works
- The Environment
- About Global Moorings
- Movies
- Photo Gallery
- News
- Contact Us



→ Permitting and Environmental Review

1. Prepare CEQA Initial Study/Mitigated Negative Declaration
2. Obtain all required Permits and Approvals:
 - U.S. Coast Guard – *Private Aids to Navigation Permit*
 - U.S. Army Corps of Engineers – *Nationwide Permit 10 or Letter of Permission*
 - Regional Water Quality Control Board - *Section 401 Water Quality Certification or Waste Discharge Requirements*
 - County of Marin – *RBRA to Obtain Lease*





→Next Steps

- May RBRA Meeting – Present Preferred Alternative Layout Refined
- May RBRA Meeting – Present Cost / Benefit Table for Mooring System Types
- Develop and Submit Internal Draft IS / MND / CEQA Documents
- Develop and Submit Various Agency Permit Applications / Notifications