

From: Gordon Stout <gords11@gmail.com>
Sent: Monday, May 19, 2025 2:56 PM
To: McNulty, Liza
Subject: Fwd: Wind, Waves, and Lee Shore at the WETA Ferry Dock
Attachments: west-dock-in-storm (1).mp4; Wind, Waves, and Lee Shore at the WETA Ferry Dock.pdf

Liza,
This is a somewhat different set of considerations for the WETA ferry dock location, please also include it with the EIR scoping inputs.
Thanks!
Gordon

----- Forwarded message -----

From: **McNulty, Liza** <lmcnulty@berkeleyca.gov>
Date: Mon, Apr 28, 2025 at 1:44 PM
Subject: RE: Wind, Waves, and Lee Shore at the WETA Ferry Dock
To: Gordon Stout <gords11@gmail.com>, BMASP <BMASP@berkeleyca.gov>

Thank you, your scoping comment for the Pier-Ferry Project EIR has been received.

Best,

Liza McNulty, PE

Capital Improvement Program Manager

City of Berkeley Parks, Recreation & Waterfront Department

2180 Milvia Street, 3rd Floor

Berkeley, CA 94704

(510) 542-4131 (cell)

From: Gordon Stout <gords11@gmail.com>

Sent: Monday, April 28, 2025 1:40 PM

To: McNulty, Liza <lmcnulty@berkeleyca.gov>; BMASP <BMASP@berkeleyca.gov>; BMASP <BMASP@berkeleyca.gov>

Subject: Fwd: Wind, Waves, and Lee Shore at the WETA Ferry Dock

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Liza,

This email, sent in March 2022, called attention to issues arising from the very exposed location of the proposed WETA ferry dock. Most importantly, a loss of control event at a critical point of the ferry's approach to the dock could cause the ferry to run onto the rocks or collide with the Skate's restaurant, with considerable risk of injury or damage. The Berkeley Water Transportation Pier Ferry EIR must address this possibility.

- What is the probability of a loss of control (LOC) event in the ferries serving Berkeley?
- What would be the protocol for dealing with an LOC event in a ferry approaching the Berkeley WETA dock? E.g., rapid deployment of an anchor?
- What initial and ongoing training is necessary to ensure that the appropriate protocol is successfully followed whenever an LOC occurs?
- Alternatively, the ferry dock could be relocated inside the Marina or another sheltered location.

Assuming this major safety issue can be addressed, consider next the storms that would be expected every year,

- How often would storms with strong North or South winds require ferry service to be suspended?
- How would the service suspension be communicated to ferry patrons?
- What alternate transportation would be available and how would ferry patrons access it?
- Again, it would probably be best to locate the ferry dock in a sheltered area and avoid these service suspensions .

----- Forwarded message -----

From: **Gordon Stout** <gords11@gmail.com>

Date: Mon, Mar 14, 2022 at 4:56 PM

Subject: Wind, Waves, and Lee Shore at the WETA Ferry Dock

To: <bbartlett@cityofberkeley.info>, <LDroste@cityofberkeley.info>, <shahn@cityofberkeley.info>, <kharrison@cityofberkeley.info>, <rkesarwani@cityofberkeley.info>, <SWengraf@cityofberkeley.info>, <JARreguin@cityofberkeley.info>, Ferris, Scott <SFerris@cityofberkeley.info>, Lam, Nelson <nelam@cityofberkeley.info>, Endress, Alexandra <aendress@cityofberkeley.info>, Robinson, Rigel <RRobinson@cityofberkeley.info>, Taplin, Terry <ttaplin@cityofberkeley.info>, <gougherty@watertransit.org>, <connolly@watertransit.org>, Miller, Roger <RMiller@cityofberkeley.info>, <Craig.Lewis@ghd.com>

Cc: Jim McGrath <macmcgrath@comcast.net>, Paul Kamen <pk@well.com>, Camille Antinori <camilleantinori@gmail.com>, Maurice Kaufman <mkaufman2726@gmail.com>, David Fielder <davidfielder@comcast.net>, Gordon Wozniak <gjwozniak@me.com>, Nick Goyhenetche <nbg543@yahoo.com>, andrew sullivan <a_e_sullivan@yahoo.com>, Peter Kuhn <peter@kuhnenergy.com>, saul saul <cscsaul@yahoo.com>, Nathan <nathanstout@sonic.net>

All,

The proposed location for the WETA ferry terminal in Berkeley is very challenging, and needs careful consideration and design.

Please read the attached document, and enter it into the public comment record for the BMASP Community Workshop #2, Wednesday, March 16, 2022.

Thank you!

Gordon Stout

Parking-TDM Response for PRWC meeting May 14, 2025 G. Stout

The parking studies that have been reported do not provide a comprehensive and accurate picture of recreational parking at the marina. Without such a picture, neither good parking plans nor a credible EIR is possible.

Much of the parking data was compromised by the fact that years' worth of the parking records were collected at 10 am and 8 pm, and hence did not accurately reflect recreational use.

Waterfront Monitors Parking Counts Page 22/129: *"The City of Berkeley Waterfront Monitors have been consistently collecting daily parking counts at the Waterfront since May 2021. The data is collected by counting the number of occupied spaces at each lot at 10 am and 8 pm, with the results recorded on a paper survey form that is later entered into a spreadsheet maintained by Waterfront staff."*

"Limitations: *The data may not reflect peak utilization which could occur outside of the hours of 10 am and 8 pm. In Spring, 2024, staff began collecting data at additional time points (2 pm and 4 pm), which was not used for this study due to the comparatively limited number of data points"*

Kittelson's 10 am-8pm data **Limitations** caveat highlights a problem that still shows up in the report. For example, Figure 5: Parking Utilization on Weekends (Average Saturday vs Peak Saturday), presumably this figure summarizes 10 am/8 pm data, but what time is midday, 2 or 4, or something else? And does the peak Saturday "overall public parking 75% occupied with 306 spaces remaining" refer to empty spaces in slip holder lots? This is waterfront staff data, was it collected at 10 am? And what is the "Seawall Drive/Shorebird Lot"?

It is probably true that Kittleson was set up to fail by a decision to keep the 10 am/8 pm data, but fail they did, it's confusing to read.

On the plus side, Kittelson did present the Quality Counts data, collected on

- Saturday, April 6, 2024
- Thursday, April 11, 2024
- Thursday, August 1, 2024
- Thursday, August 22, 2024
- Saturday, August 24, 2024

Five days of data for a multi-million-dollar project seems woefully inadequate, however. I presented to the PRWC a study of sixteen Google Earth images of the Skates parking lot, because the Waterfront Specific Plan wanted to place a hotel there. Of the 16 images, a third showed a significant number of cars, a third showed few cars, and a third fell in between.

Parking at the marina is variable, data sampling must be frequent enough to provide an accurate picture.

But even if it is not enough data for designing a parking plan, maybe we can learn something from these five days of Quality Counts data. Tables 1 and 2 show that on weekends the South Cove East and West lots are both extremely full, way fuller than the earlier waterfront monitor data showed. And way too full--adding even a few spillover ferry rider's cars would make South Cove parking untenable.

Let's talk about all those Kittelson plots that show the 1541 available space line way, way above the lines showing spaces actually used. Creepy, not just because the 1541 includes the 300-space Seawall Drive parking lot that the city usually keeps closed. Mostly creepy because it sounds like a scam—too-good-to-be-true.

I see the latest draft shows 300 spaces removed from the available space line to reflect the exclusion of the Seawall Drive parking lot. That's progress, but it's not nearly enough. Keep going, exclude all the lots that are just too far away from the South Cove to be useful. Spinnaker Way, Spinnaker Way Lot, D & E lots are all useless to recreational users of the South Cove. Aso, all of the slip holders parking lots (J&K, L, what's left of M, O and F&G, and H&I) are shown as "Available Spaces" (fig 6), even though filling them up with ferry parking would lead to an exodus of slip holders (who need and pay for that parking) and a major financial crisis for the Marina.

The Kittelson study describes a marina where patrons may need to park far from their desired destination, and then use wayfinding, shuttles, micromobility or walking to get where they actually want to go. This profoundly degrades the experience of spending time at the marina. Let's say I want to take my grandsons to Adventure Playground for an hour. I drive down there and park on Marina Boulevard. A shuttle is useless, as would be taking a bus to the marina—the kids have to be in their car seats, and they usually have drinks, snacks and a lot of other stuff. How long does it take to get parked and walk/micro-mobility/uber/whatever down to Adventure Playground? And what happens when you forgot your grandson's warm jacket in the car, do you have to go all the way back to grab it?

The day now centers around parking logistics rather than making stuff and zip-lining at Adventure Playground. How can you say that the Ferry project has not usurped the parking—and the happiness—of these recreational users?

The 315-space Seawall Drive lot was closed in 2018 to deal with a homeless RV encampment, and the city has kept it mostly closed ever since. At this point, that's **seven years and counting** of parking in the marina being compromised. This has been a horrendous breach of the city's responsibility to maintain public access, and has significantly exacerbated parking problems in the

South Cove as well as undermined the city's credibility with the Marina recreational communities. Perhaps the City thinks that closing the Seawall lot will make everyone forget that the lot provided important recreational parking. We did not forget:

The Berkeley Water Transportation Pier Ferry Project must plan for the following categories of parking access that historically were provided by the Seawall Drive lot:

1. Some of this lot—I would guess 50 spaces—used to provide parking for families wanting to carry in supplies to picnic or barbecue at Shorebird Park. I don't have data, but I believe that such picnics essentially stopped in Shorebird Park when the Seawall Drive lot was closed.
2. More spaces—again I would guess about 50 spaces—were used by people fishing off the pier before it was closed in 2015. There needs to be parking in the plan for these people, many of whom need to bring tackle and take fish back home, not ideal for bike or bus travel.
3. Going back in time, perhaps 100 spaces were used by Hs Lordships restaurant, and some spaces will be needed for a new restaurant if it is to be successful. Food trucks also need nearby parking.
4. Another block of spaces (10 or 20?) was used by people launching from Lordships Cove. If there is a good launch put in at the Cove, it will need, say, 50 spaces, more if the South Basin is not dredged.
5. It was a very important overflow lot for the other South Cove parking lots, way closer than Marina Boulevard and about as close as Skates.

This totals 250 spaces, maybe only 150 spaces if they stagger time-wise, are we thinking we could squeeze 150 more cars in the South Cove and Skates lots? I don't think so, not even close.

Income and Paid Parking Paid parking is of course a key strategy to try to make the Ferry project parking work. But Kittelson's Intercept Study found that 16% of responses reported household incomes of less than \$50,000 and 10% less than \$25,000. Also, 30% of the respondents come to the marina "a few times a week". Let's say it's 3 times a week, 30 weeks a year, and a \$10 parking charge, that's $3 \times 30 \times \$10 = \$900$ per year. On a \$25,000 income, that's crazy! We should not allow the ferry project to force paid parking onto the Marina!

License Plate Readers, Parking Permits, and Pay Kiosks Expensive infrastructure, useful if the Marina is to be turned into a big-league ferry terminal. Not so useful otherwise.

Delayed Lot Opening Won't Keep Ferry Cars Out Morning Parking lot closures are only effective against ferry parking only if the closure covers all of the ferry departure times. But WETA projects departure times throughout the day:

WETA Berkeley Ferry Service Business Plan, Version 1.0, page 22:

Table 8 Berkeley to San Francisco Service (Illustrative Only)

	Depart Berkeley	Arrive San Francisco	Depart San Francisco	Arrive Berkeley
Weekdays AM	6:30	6:55	7:05	7:30
	7:05	7:30	7:40	8:05
	7:40	8:05	8:15	8:40
	8:15	8:40	8:50	9:15
	8:50	9:15	10:05	10:30
	9:25	9:50	10:40	11:05
	10:40	11:05	15:30	15:55
Weekdays PM	11:15	11:40	16:05	16:30
	16:05	16:30	16:40	17:05
	16:40	17:05	17:15	17:40
	17:15	17:40	17:50	18:15
	17:50	18:15	18:25	18:50
	19:05	19:30	19:40	20:05
	19:40	20:05	20:15	20:40
Weekend AM	8:30	8:55	9:05	9:30
	9:40	10:05	10:15	10:40
	10:50	11:15	12:05	12:30
Weekend PM	12:40	13:05	13:30	13:55
	14:00	14:25	14:40	15:05
	15:10	15:35	15:45	16:10
	17:00	17:25	17:35	18:00

Source: Economic & Planning Systems

So, for example, in Skates / N, J&K, South Cove West, L&M and O, Scenario 2, **Free Full Day parking after 10 am**, the lots will fill up at 10 am with all-day ferry parkers planning to take the 10:40 or later ferry. **This scheme does not keep ferry parkers out of the recreational lots.**

- **Were attempts made to persuade Genentech to get their ferry riders not to park in the South Cove parking lots?**
- **Dynamic Management: if this is actually a strategy, who within the city will advocate for keeping recreational parking available? And if it is the strategy, how many years after spending all the money will you know the system works? Don't you want to know before you build it?**

Negotiate with WETA Why, oh why does Berkeley accept as a constraint whatever ridership goal WETA proposes? Berkeley is the entity with the obligation to BCDC to not allow ferries to encroach upon recreational use. Why are we not telling WETA that they may not sell so many ferry tickets that ferry parking will overwhelm the marina? Isn't that the way around it ought to be? If we told WETA they could have 300 passengers per day, the marina might remain a great park.

Recreational Users are in a Losing Position In general they arrive late, when most of the parking lots have already been scouted by the ferry and charter boat riders. And many recreational patrons do not have the income for normal paid parking or the occasional expensive “oops—missed the time limit” tickets. Bad deal for them, we should not let it happen.

Parking in the South Cove West Parking Lot This document shows in photographs that on four winter mornings, the three main rows of the South Cove West Parking Lot were mostly full by 9:00 a.m. with cars from Genentech ferry riders and fishing boat anglers. (Perhaps you can find this report in the BMASP public response files). I sent an email to Scott Ferris and Ali Endress (see forwarded copy, perhaps also in the same place) asking that the 199 Seawall lot be opened and Genentech be enlisted to persuade their ferry riders to park there. No response to either email. I am afraid this may be an example of how effective **Dynamic Management** will be i.e., **not very**. The Genentech ferry customers still park in the South Cove West lot, which still overfills on sunny afternoons, and the 199 Seawall lot is still more often closed than not. Did the City contact Genentech? I don't know, did they?

Berkeley Police Department Lot grabbed most of L-M dock, **the lot should be given back to the marina**, we can't afford to lose this much centrally located parking for something that would be better in Berkeley proper.



How ugly do we want the Marina to become? Larkspur (below) is an example of a ferry terminal with what looks like adequate parking. Despite those cool triangular roofs, it is butt ugly. I have never felt moved to go there to relax or connect with nature or boats.

I will not love the version of the Berkeley Marina envisioned in this report. I think we should not build it. The Marina is a beautiful, beloved park, please let's keep it that way.



Wind, Waves, and Lee Shore at the WETA Ferry Dock Location

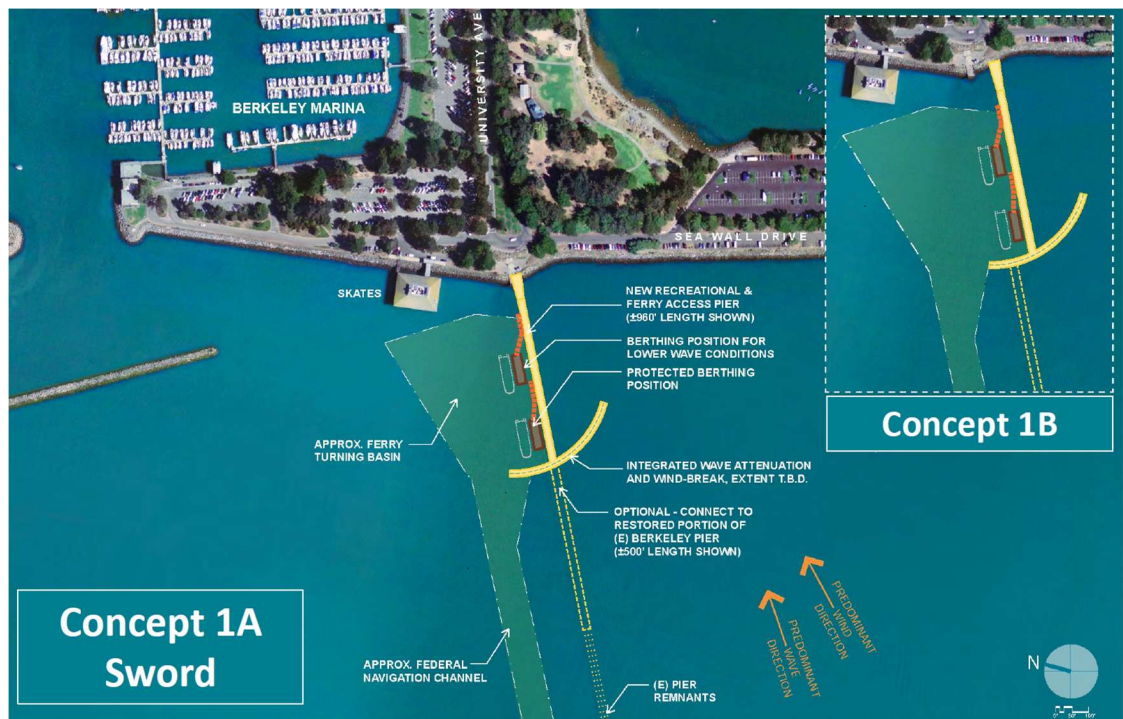


This is a still picture from a video (attached, I suggest you watch it) of conditions in Berkeley's south sailing basin with a strong south wind blowing directly across the south-facing seawall. Note the reflected waves, and the spray overtopping the seawall. With a strong north wind, the proposed north-facing WETA dock would probably look something like the video, with waves breaking over the dock and soaking anyone on it.

North and South Winds

Strong North and South wind events happen several times a year on the Bay. The figure below shows the Sword configuration presented at Workshop #2. Wave protection looks good for the predominant west-to-southwest wind directions, but strong North to Northwest wind and waves would hit the WETA docks with full force, with waves overtopping the docks much like the waves in the video. Protecting the WETA docks against waves coming from the north is not at all easy because a breakwater cannot be placed within or directly upwind of the ferry turning basin. This is a serious problem for a dock in this location, which probably would mean cancelling ferry service on days with north winds above a certain threshold.

For a South wind, the 'Sword' hilt forms (as labeled in the figure) a Protected Berthing Position, but if there is no wave attenuation for the Lower Wave Condition berth, waves would probably overtop the float in full view of passengers waiting in line for the ferry in the Protected Berthing Position. Entertaining, perhaps, but not confidence-inspiring. Wave attenuation for south wind storms needs to be present for both the Lower Wave Condition berth and the Protected Berthing Position.



Nearby Lee Shore

In the usual westerly summer winds, an inbound ferry will come downwind to a position north of the ferry's berth, then make a 180° turn in the "Ferry Turning Basin" so it ends up pointed upwind when docked. But the summer winds are often well above 25 mph, and the waves can be substantial, a bit like those in the picture above. The 180° turn would at the very least give the ferry captains a good chance to demonstrate their skill.

There is a significant hazard here, however: the ferry turning basin is just a few boat lengths upwind of both the rocky shore and the Skates restaurant. If a ferry were to lose power or steering control just before the 180° turn, it would not take long for the ferry's eastward motion, helped by a strong summer wind, to carry it down to the shore. It might ground on the rocks, which would be dangerous, or collide with the Skates restaurant, which would be very dangerous indeed. Skates is built on tall, slender pilings (see below) and might not survive a collision with a 135-foot-long ferry, especially if the ferry were to drift under the restaurant. The chance of injury in such an accident would be significant.

Perhaps after a power loss there would be time and room to set an anchor, perhaps not—an anchor would have to be dropped almost immediately after loss of power to have a chance of stopping the ferry in time. For the crew to deal with such a situation, they must have appropriate equipment and rigorous training in how to use it, very much like the training aircraft pilots receive for engine failures during takeoffs.

With well-maintained ferries, this kind of power loss should be a very rare event. Given the potential hazard involved, though, I think this is a safety issue that needs to be carefully evaluated for this site.

WETA's new Treasure Island ferry dock also has a windy location and a close lee shore—and, for what it's worth, a breakwater to protect against north winds and waves. Perhaps WETA has investigated this problem. If so, they should share their work.



Wind and Wave Modeling

In 2018, the city commissioned a [study by GHD](#), *Small Scale Ferry Terminal FS Berkeley Municipal Pier_DRAFT.pdf*, that should have helped with the design of the pier and the identification of the lee shore problem. Unfortunately, the study used wind data from NOAA's Alameda Station, a far less windy location than the Berkeley Marina, so the wave modeling was for 12 mph west wind and was therefore useless (see pages iii, 24, and 25). If the Berkeley Pier docking site is to be used, a wind and wave study should be completed using real-world data, probably obtainable from iWindsurf, which has several nearby wind sensors and archives of wind strength/direction data. This data should allow modeling wave action for all wind directions, and so guide the design of wave protection for the ferry docks. Modeling should include prediction of silting resulting from candidate breakwater designs.

Pier Structure Design

The design of the pier structure also needs consideration: the design chosen has monopile bents along the pier centerline, unlike the existing pier which has its pilings along the north and south pier edges.

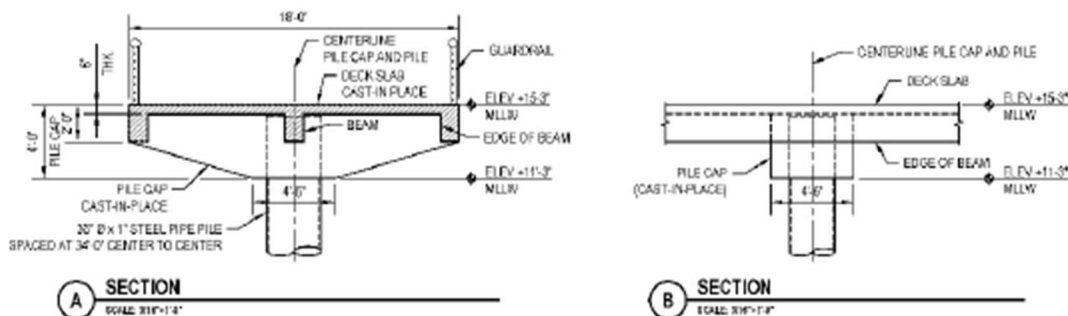


Figure 8 – Replacement Pier Concept using Monopile Bents

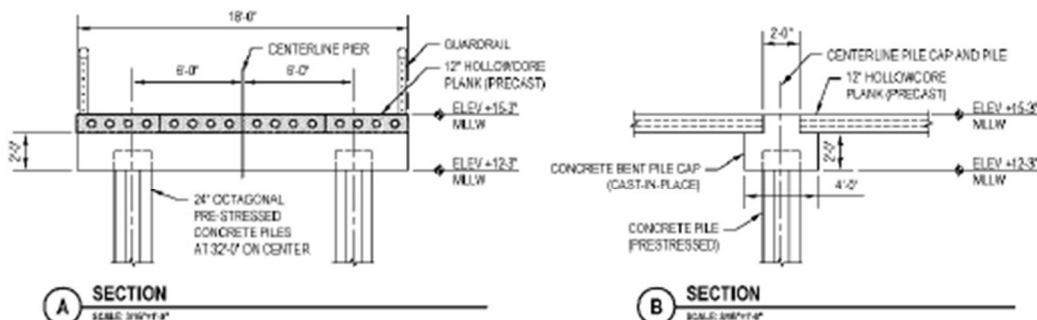


Figure 9 – Replacement Pier Concept using Two Concrete Pile Bents

This design choice has safety implications: the centerline structure makes it much more likely that a boat that gets blown against the pier will end up under the pier deck (see picture below of a boat blown under the San Mateo bridge in 2009). Widening the stance of the two concrete pile bents and keeping the along-pier pile spacing low would provide better protection against a boat ending up under the pier.

(Figures above from [study by GHD](#), *Small Scale Ferry Terminal FS Berkeley Municipal Pier_DRAFT.pdf*, pages 11 and 12.)



Michael Macor / The Chronicle

Picture/story:

<https://www.sfgate.com/bayarea/article/Crews-to-move-boat-stuck-at-San-Mateo-Bridge-3165070.php#photo-2297687>

In addition to the safety implications, the location of the piles has implications for fishing from the pier, since the pilings and the biomass that attaches to them are part of the food chain of fish and crabs. The current pier construction allows fishing directly adjacent to the pier support pilings, which, if I remember from long ago, gets more bites. This should be looked into before finalizing the design. Keeping part of the underwater structure of the old pier should also be considered.

Dredge the North Marina Entrance

As a person who goes in and out of the marina under sail, I would choose to use the north harbor entrance at times when both ferries and fishing charter boats are likely to be using the south entrance. Therefore, I think that the ferry project should undertake the dredging of the north harbor entrance as well as the south one, so that boats leaving and entering the marina have the opportunity to avoid possible congestion near the ferry dock.