

Bohemia Bay Yacht Harbour

client:
Bohemia Bay Yacht Harbour
Chesapeake City, MD

project:
Bulkhead Replacement

project scope:
Replace 485 LF of heavily loaded and failing timber bulkhead, which not only held up a steep earthen bank, but also an asphalt parking lot. The failing bulkhead was precariously located only feet in front of support columns holding up the roofs for three large covered boat sheds, housing millions of dollars worth of power boats.

challenges

- Determining how to anchor the new bulkhead since the steepness and instability of the bank precluded the use of a conventional deadman system
- Achieving sufficient penetration with the sheet piles as test borings revealed an undulating hard layer that made the selection of optimum sheet length difficult
- Operating in tight spaces requiring long reaches to navigate equipment and materials in and out of the site



solutions

A new steel sheet pile bulkhead was designed which provided firm footing in a stiff clay layer. The design featured CZ18 sheet piles, an HP12X53 horizontal external wale, and 25 KIP drilled steel helical piles, or "soil anchors", driven 35-45' into the bank to secure the new bulkhead.

Since the bank was so unstable "racking up" even a short run of steel sheeting at a time was not an option. Instead no more than 7' of the bank was left unsupported by either the new or old bulkhead at any given time.

To accomplish this, the helical piles were first driven behind the deteriorating timber bulkhead. The existing tie back system was then cut and the new sheet piles driven - one pair at a time. The final length of helical pile shaft was then installed, passing through the steel sheeting and wale. The shaft was then secured to the inside of the wale flange with mechanical fasteners, the remnants of the timber bulkhead removed, and the whole wall backfilled and graded. To complete the job, a pile-supported timber boardwalk with composite decking was installed on top of the new bulkhead.



Sherwood Forest/Little John Marina

client:
Sherwood Forest Club, Inc.
Annapolis, MD

project:
Concrete Floating Dock
Installation

engineer:
BayLand Consultants &
Designers, Inc.
Hanover, MD

Sherwood Forest is a private, exclusive waterfront community on the Severn River in Annapolis, Maryland. Dissen & Juhn was commissioned to replace the "Little John Marina" - a deteriorating timber, fixed dock system - with state-of-the-art concrete floating docks, manufactured by Bellingham Marine Industries, York, Pa.

The project allowed Dissen & Juhn to demonstrate its extensive experience and expertise as a complete general marine contractor, taking the job from demolition and disposal of 7,000 SF of timber docks

to furnishing and installing the new floating dock system while coordinating all activities with the engineering firm, dock supplier and subcontractors (electrical and mechanical). The docks were secured with 16" dia. steel piles that ranged in length from 42' to 72'. The final operations included driving 56 timber piles and installing two aluminum gangways.

From project launch, including designing and manufacturing the concrete docks, the project took five months to complete with no dilution of the boating season.

The new marina now boasts the modern and clean design of a floating dock system with 107 slips ranging in length from 20' to 45'.



**client:**

Cambridge Yacht Club and
Cambridge, MD

project:

Cambridge Marina
Expansion/Reconstruction

engineer:

Andrews Miller & Associates

For 35 years Dissen & Juhn Corporation has been tackling a variety of projects involving dredging, pile driving and the design and construction of piers, bulkheads, boat ramps and other marine structures. Whether a client needed just dredging, or a variety of services, Dissen & Juhn's expertise, equipment capability, and skilled and versatile crews set the company apart.

Now, as demonstrated by the job in Cambridge, Dissen & Juhn has proven that a small company can do (relatively) large projects too. However, even though this was a milestone job for the company, for most of the guys it was just business as usual but bigger.

Cambridge marina is one of the busiest on the Mid-Shore. It is a popular destination for both leisure and commercial boaters. This project not only increased the combined number of slips (for both the Cambridge Yacht Club and Municipal Yacht Basin) from 234 to 410, but also enables the marina to now handle longer and wider boats. In addition to the significant capacity enhancement, the entrance to the marina was changed to make it easier to navigate. State-of-the-art concrete floating breakwaters now enclose the boat basin.

The renovation also included much-needed amenities for the municipal portion of the marina, namely a fuel dock for boats to get diesel and gasoline, as well as a waste pump-out station and a replacement bulkhead featuring high strength composite sheet piling.



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Case Study

marine construction specialists



The new construction added 80% more slips, from 43 to 77, while increasing the average slip size as well. The facility can now accommodate 50-60' long boats more easily.



The North East River Yacht Club (NERYC) project was the perfect design/build job for the Dissen & Juhn Corporation, one in which the full-service marine and foundation contractor could apply their extensive experience in marina construction to meet a critical project delivery schedule.

One of the key features of the new marina is the floating attenuator. The marina extended several hundred feet out into the Northeast River, in northern Maryland, and had little in the way of wave protection. Long fetches to the south and north resulted in a frequent chop, and made for difficult mooring. The new attenuators encircled the docks, de-energized the waves, and created a more tranquil boat basin.

project

North East Yacht Club Renovation and Expansion

client

North East Yacht Club

engineer:

Dissen & Juhn Corporation



Renovation and expansion of the 80-year old marina took place over a single winter off-season. During this time, construction crews demolished several hundred feet of deteriorated fixed piers, dredged 5,000 CY of sand and silt from the entrance channel, fairways and slips, installed 165 LF of vinyl bulkhead, 570 LF of timber boardwalk, 4,300 SF of floating docks, and over 900 LF of state-of-the-art floating concrete wave attenuator. All of the marina's utility systems were upgraded including new power pedestals and sewage pump out.



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