DISSEN & JUHN COMPANY

CASE STUDY

Project:

Chestertown Municipal Marina, MD
Marina Redevelopment & Bulkhead Replacement

Client:

Town of Chestertown, MD

PROJECT SCOPE:

Chestertown's waterfront and public access to it are indelible parts of the town's identity and heritage. So when the Chestertown Marina fell into disrepair after years of deferred maintenance, the Town of Chestertown purchased the marina in 2012, and began making plans for crucial revitalization, repair and redevelopment to ensure the sustainability of the marina as a public waterfront amenity.

Dissen & Juhn Company's work included:

- Demolishing and disposing of two, deteriorating fixed timber docks and replacing them with new floating docks, featuring a total of 34 slips plus two large slips, one positioned on each new dock, one on an "L" head and the other on a "T" head. Both floating docks feature electrical, water, and fire stand pipe systems provided by Dissen & Juhn's subcontractors. Electrical service included 30, 50, and 100-amp service. Dock 2 includes a sewer pump out system. The timber-framed floating docks feature IPE decking, an exotic hardwood that lasts longer than conventional pine decking. The docks were moored with 12" diameter X ½" wall steel pipe piles that varied in length from 50' up to 94' long.
- Lengthening and widening an existing timber dock plus three, 50' long x 5' wide finger docks, a full utility system, eight new slips and an additional large slip on the "T" head.
- Furnishing and installing a 268 linear foot vinyl bulkhead along the shoreline. This structure was designed and constructed to replace a failing timber bulkhead, using a concrete dead-man system. The design featured keyed precast concrete blocks, each measuring 16" thick x 3½' high x 18' long and weighing four tons. Connected to the bulkhead with 1" diameter X 20' long steel tie rods, they provided enough resistance to keep the structure firmly in place.
- Furnishing and installing a 359' long x 10' wide pile-supported timber boardwalk landside of the new bulkhead. The boardwalk connects a timber pedestrian bridge on the upstream side of the marina to a paved walkway on the downstream side of the marina, and provides convenient access to the adjacent community park.

CREDIT: Town of Chestertown

CHALLENGES AND SOLUTIONS:

The Chestertown marina project was completed on time and on budget despite numerous notable challenges — mostly time and space issues. The project had to be completed in time for Downrigging Weekend, which attracts up to 5,000 tourists to Chestertown annually. The date of the 2018 event also coincided with the deadline for one of the grants funding the marina project.

This marina is located approximately 27 miles up the Chester River in an area that is heavily agricultural. Here, the river bottom is characterized by a thick layer of fine silt that originates in the farmland flanking the river on both sides. Because silt deposits don't typically exhibit any structural properties, the steel pipe piles securing the floating docks to the river bottom had to be quite long, long enough to penetrate deep into the river bottom until they reached firm material. In some locations, the 12" and 16" steel pipe piles were over 90' long.

Working around and within the construction zone presented its own space challenges. The town's only waterfront restaurant, the Fish Whistle, sits squarely in the middle of the construction zone and planned to stay open throughout the project. Due to the proximity of the new bulkhead to the restaurant's foundation, a "gravity block" type anchoring system was used instead of a conventional deadman pile type.This type of anchoring system posed less of a risk to the foundation as compared to piles.

The final space challenge was presented by needing to do water-side and landside work simultaneously. David A. Bramble Inc., of Chestertown, was responsible for doing all the site work on the project, including raising the elevation of the parking lot, installing new sewer lines and electrical utilities, and paving. Both contractors carefully "choregraphed" their work where site work butted up against marine work.

CREDIT: Tyler Campbell