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## Islander pioneers seawall repair system

By Brooke Huff

**When James Timmerman was told three years ago that his seawall was damaged beyond repair, he knew that something had to be done.**

As a retired Merchant Marine, he was familiar with salvage projects and knew that the same process he used in those projects for years could possibly work.

Timmerman's seawall was the first seawall on Marco to be repaired using the new Dynamic Seawall Maintenance System (DSMS). Today, Timmerman and his system are credited with the repair of five seawalls.

The DSMS patent has been in the works for nearly three years. Timmerman hopes that it will be approved by the end of April. Dynamic Seawall Maintenance Systems has been in operation for about a year. It has been presented and accepted by both Marco and Naples city officials.

According to Timmerman, both city's officials loved the idea because it is less costly and invasive.

"The DSMS doesn't tear up peoples' yards or docks," Timmerman said. "The repairs are done from the water side."

DSMS anchors incorporate the use of three engineered helixes to help create a screw inserted with the use of hydraulic equipment, installed from the water side. Once in place, an adjustable flange is attached, allowing the installation to be monitored for any further movement. If there is any shifting detected, adjustments can be made on an as-needed basis. Most traditional tie-back methods are static installations, which means they have no means of adjustment or monitoring. DSMS can be modified to allow repair of seawalls in various stages of disrepair.

All materials used are Type 304 stainless steel. This allows DSMS to be applicable at or below the waterline. According to Martin Pinckney, branch manager of American Engineering Consultants, the stainless steel products are better than traditional galvanized or epoxy-coated screws because the corrosion resistance is in the base material, not the coating. They also have a life expectancy that exceeds the current materials used in alternative methods.

The anchors can also be used to reinforce non-failing seawalls

The DSMS anchors were developed by Timmerman, with the technical assistance from American Engineering Consultants of Marco Island.

Greg Mann of Blue Marlin Marine Construction, the first marine contractor to be licensed to sell the system, said that another advantage of DSMS is the time it takes for installation. With the traditional dead-man method, it can take a week.

"The traditional method takes so long because there is so much waiting," Mann said. "Waiting for the cement concrete to be poured and then you have to wait for it to dry. You also have to wait on the contractors."

With the right men and the right equipment, DSMS installation on an 80-foot wall can be completed in a day.

"You can have a party on your dock that very night," Timmerman said.

The clean-up afterwards is also much quicker.

According to Timmerman, the best part of DSMS is that it is a much more cost effective process. Not only does the traditional method require costs for the equipment and installation and labor but also the yards and docks have to be replaced.

"When it's all said and done, we're talking about a very costly and obtrusive process using traditional methods," Timmerman said.



*Submitted photo  
DSMS engineers start DSMS installation. Installations are performed from the water side of the seawall.*

The DSMS contractors and engineers work with every client. They discuss the clients' needs and determine what is best for their seawall.

"DSMS is a great alternative, but sometimes there is something else that would work better," Mann said. "It really depends on each seawall."

Within the next few months, Timmerman will be introducing his new DSMS to the public in trade shows. According to Timmerman, interest and response thus far have been very positive.