



Through the use of its vinyl-concrete technology, Truline brings a new and innovative sheet pile system to the pile driving market, improving on a construction material whose origin stretches back more than a century. Conventional sheet piling, both steel and precast reinforced concrete, have long been used for a wide range of construction projects. While these materials perform very well structurally, they both experience shortened life cycles when placed in corrosive environments. They work well but they fail too quickly in many applications, most notably in saltwater marine environments. Newer, 100-percent vinyl sheet pile offered extended service life in the corrosive environments but their structural properties limited the applications for which they are suited. Truline had a better idea.

Truline’s solution was in developing a system that combines the structural capacity of steel reinforced concrete with the extended service life of vinyl. The system is comprised of a permanent PVC U-shaped form, which is installed interlocked edge to edge in a manner similar to conventional sheet pile. These forms are then filled with reinforced concrete. The resulting wall’s structural capacity is based on its concrete fill while the service life of that concrete is extended by the protection offered by the permanent Truline form. The system combines the strengths of the two materials to build better walls.

Along with extended service life, Truline offers other key benefits, including proven strength and efficient installation.

Proven strength is really a statement that the engineering behind the product is solid. It has been tested and analyzed in full scale by an independent outside lab and engineering firm, both of

which are internationally recognized. All of Truline’s engineering specifications are based on this testing and analysis. With the long successful history of steel reinforced concrete backed up by independent testing, Truline’s strength is proven and unquestioned.

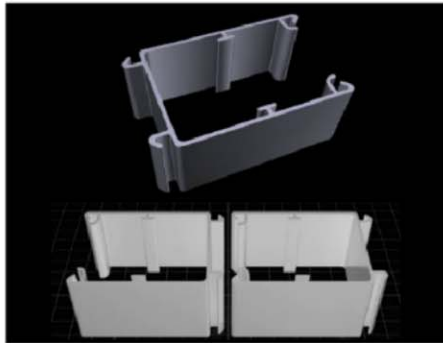
Efficient installation is a benefit that comes from the modular nature of the system. A conventional sheet pile structure, whether it is steel or precast concrete, typically requires large equipment and large crews to install. With Truline, all of the components are relatively lightweight. The Truline form weighs seven pounds per foot and can easily be moved around and installed with small crews and small equipment. The rebar is individually lightweight and the concrete is placed using a pump. The resulting wall is a cast-in-place, eight-inch-thick, reinforced concrete structure that is installed with less labor and lower equipment costs than the other conventional options.

Truline can be installed as anchored or cantilevered in various soils or pin-piled in rock. When conditions prevent the sheet from being installed to the required depth to be stable, the pin-pile option is a valued solution. To do this, Truline would be driven to refusal. Then, a pin-pile would be driven into the rock, extending below the toe of the sheet and up into the hollow of the Truline form. Essentially, the basic steps of installing Truline include (1) drive the Truline sheet piling; (2) place steel rebar inside; (3) cast-in-place the concrete fill; and (4) finish with a cap.

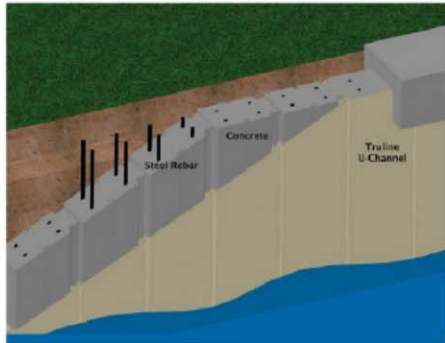
Truline’s performance is also proven in the field. A recent job where the Truline wall was selected by the Federal Aviation Administration (FAA) for a project at the Oakland International Airport really serves to highlight the product’s strengths. The FAA



Truline installed with anchor



Truline U-channel parts



Truline innovative hybrid system

Photos and images courtesy of Truline



Truline (Florida)



Truline (California)



Truline (Texas)

faced a few challenges in constructing this wall that sent them searching for a new way to build it.

They were building a new control tower that was to be constructed adjacent to a federally protected wetland and needed a retaining wall to prevent erosion and to contain a bioswale soil mass that would serve to filter contaminants from storm water runoff prior to being discharged into the wetland.

The first issue they faced was constructing a wall that would require little or no maintenance due to the difficulty of getting permits in the future to enter the wetland to do so. In addition, they wanted to construct a wall that would last the 50-plus years that they expected to use the new tower. Corrosive soil at the site, along with the close proximity to the San Francisco Bay making saltwater exposure likely, seemed to make a vinyl sheet pile the best choice to meet that need.


The second issue involved the limited wall installation space. The FAA intended for the tower to be LEED Gold certified, which required that they capture, store and reuse rainwater for irrigation purposes. The plan was to bury large holding tanks behind the retaining wall. Due to the exposed height of the wall, installation of a traditional corrugated vinyl sheet pile wall would require several mid-

walers and corresponding layers of earth anchors, which would allow no room for installing the tanks. They needed a different solution. The answer was Truline.




The Truline hybrid system utilized the strength of the reinforced concrete to eliminate the need for the mid-walers and anchors clearing that space for installation of the holding tanks. And, because the Truline form remains a permanent part of the wall, it protects the concrete and steel from exposure to the corrosive soil and marine environment, providing the maintenance-free and longer service life that was initially desired.

Truline provided a solution for the FAA to implement their design as planned.

Truline brings today's pile driving contractor a new and innovative sheet pile system, allowing a better way to build and protect sheet pile structures for longer service life in harsh environments. Truline has been installed in 16 states and nine countries so far for seawalls, bulkheads, retaining walls, soccer field walls, flood protection walls, erosion control and earth retention projects. Backed up by solid engineering, rigorous testing and proven field performance, Truline can be used with confidence for your next sheet piling project. ▼

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