



SOFT ENGINEERING AND GREEN INFRASTRUCTURE

Historically, many river, inland lake, and coastal shorelines were stabilized and hardened with concrete and steel to protect structures from flooding and erosion, or to accommodate commercial navigation or industry. Typically these shorelines were developed for a single purpose. Today, there is growing interest in developing shorelines for multiple purposes so that additional benefits can be enjoyed.

“Soft engineering” is the use of ecological principles and practices to reduce erosion and achieve the stabilization and safety of shorelines, while at the same time enhancing habitat, improving aesthetics and saving money. Soft engineering is achieved by using vegetation and other materials to soften the land-water interface, thereby improving ecological features without compromising the engineered integrity of the shoreline.

IS THIS RESILIENT?

There is growing recognition of the importance of this type of “green infrastructure” in sustaining communities, environments, and economies. Traditional “hard engineering” practices limited public access to bodies of water, and made them less accessible for recreation. Most importantly, the installation of armoring disrupts the natural movement of sediment and can cause increased erosion and susceptibility to coastal storms on neighboring properties.

From an ecological standpoint, hard engineering typically has little or no habitat value for fish or wildlife, while soft engineering incorporates habitat for fish and wildlife and is less likely to compromise the important dune and coastal ecosystems that protect the ability of the Great Lakes to support fish, wildlife, and freshwater.

There are also economic benefits associated with use of soft engineering. In general, soft engineering of shorelines is less expensive than hard engineering of shorelines. Additionally, long-term maintenance costs of soft engineering are generally lower, because soft engineering utilizes living structures that tend to mature and stabilize with time.

COMMUNITY INPUT

What we heard..
Residents wish to prevent shore erosion with low-impact methods

TEMPERATURE CHECK



How do you feel about green infrastructure in Bridgman?

THESE ARE MY SHORT-TERM CONCERNS WITH THE BRIDGMAN COASTAL SHORELINE....

THESE ARE MY LONG-TERM CONCERNS WITH THE BRIDGMAN COASTAL SHORELINE....

Please place a sticker under the response you'd like to leave.

I'm open to considering this idea

I'm unsure if this is right for Bridgman