Wave Attenuator Installations

The information presented in this section is a selection of our clients.

Isleton, CA
BUILT: 1995
WIDTH: 12 feet
TYPE: Heavy duty Unifloat®

Port of Brownsville, Brownsville, TX
BUILT: 1992
APPROX. WAVE HEIGHT: 3 to 4 feet
WIDTH: 13.5 feet
with double walers and wave fences
TYPE: Heavy duty caisson attenuator

Seattle, WA
BUILT: 1986
APPROX. WAVE HEIGHT: 4 feet
WIDTH: 13.5 feet
attenuator with double walers
TYPE: Heavy duty caisson

Fernandina, FL
BUILT: 1984
APPROX. WAVE HEIGHT: 3 feet
WIDTH: 16 feet
tensioned
TYPE: Caisson attenuator, post-

Portland, OR
BUILT: 1981
APPROX. WAVE HEIGHT: 4 to 5 feet
WIDTH: two units – one 16 feet
with double Glu-lam walers
TYPE: Heavy duty caisson attenuator

Brownsville, WA
BUILT: 1974
APPROX. WAVE HEIGHT: 4 feet
WIDTH: 10 feet
supported
TYPE: Caisson attenuator, post-

Port Orchard, WA
BUILT: 2004
APPROX. WAVE HEIGHT: 3.5 feet
WIDTH: 12 feet
with double Glu-lam walers
TYPE: Heavy duty caisson attenuator

Charleston City Marina, Charleston, SC
BUILT: 2002
APPROX. WAVE HEIGHT: 3 feet
WIDTH: 16 feet
with Glu-lam walers
TYPE: Heavy duty caisson attenuator

Boothbay, ME
BUILT: 1998
APPROX. WAVE HEIGHT: 2.5 feet
WIDTH: 11 feet
supported
TYPE: 1275’ caisson attenuator, pile

Vancouver, BC, Canada
BUILT: 2005
APPROX. WAVE HEIGHT: 1,000 meters
WIDTH: 6.3 meters
with hardwood walers
TYPE: Heavy Duty Skirted Pontoons

Church Point Ferry Landing, LA
BUILT: 2002
APPROX. WAVE HEIGHT: 1.3 meters
WIDTH: 4.5 meters
“I” beam steel walers
TYPE: Heavy duty skirted pontoons

Victoria, Australia
BUILT: 2002
APPROX. WAVE HEIGHT: 1 meter
WIDTH: 4.5 meters
“I” beam steel walers
TYPE: Standard caisson pontoons

Sharjah, UAE
BUILT: 2000
APPROX. WAVE HEIGHT: 1.25 meters
WIDTH: 4.1 meters
TYPE: Standard caisson pontoons

Lake Park Municipal Marina, Lake Park, FL
BUILT: 2004
APPROX. WAVE HEIGHT: 4 feet
WIDTH: 10 feet
with double Glu-lam walers
TYPE: Heavy duty caisson attenuator

Royal Brighton Yacht Club, Victoria, Australia
BUILT: 2002
APPROX. WAVE HEIGHT: 1 meter
WIDTH: 4.5 meters
TYPE: Heavy duty skirted pontoons

Opua, Bay Of Islands, New Zealand
BUILT: 1999
APPROX. WAVE HEIGHT: 1.0 meters
WIDTH: 4.0 meters
TYPE: Caisson attenuator, post-

Noumea, New Caledonia
BUILT: 2002
APPROX. WAVE HEIGHT: 1 meter
WIDTH: 4.5 meters
TYPE: Standard caisson pontoons

Bellingham, WA
BUILT: 1995
WIDTH: 12 feet
APPROX. WAVE HEIGHT: 4 feet

Bellingham, WA
BUILT: 1997
APPROX. WAVE HEIGHT: 4 feet

Bellingham, WA
BUILT: 1996
APPROX. WAVE HEIGHT: 2.5 feet

Clipper Yacht Harbor, Boothbay, ME
BUILT: 1998
APPROX. WAVE HEIGHT: 3 feet

Signal Point Marina, Boothbay, ME
BUILT: 2000
APPROX. WAVE HEIGHT: 3 feet

Northport Yacht and Country Club, Northport, NY
BUILT: 2003
APPROX. WAVE HEIGHT: 3 feet

Marina Cabo San Lucas, Cabo San Lucas, Mexico
BUILT: 2003
APPROX. WAVE HEIGHT: 3 feet

Elliott Bay Marina, Seattle, WA
BUILT: 1992
APPROX. WAVE HEIGHT: 4 feet

Fernandina Wave Attenuator, Fernandina Beach, FL
BUILT: 1992
APPROX. WAVE HEIGHT: 3 feet

Willow Burr Marina, Isleton, CA
BUILT: 1992
APPROX. WAVE HEIGHT: 3.5 feet

Charleston City Marina, Charleston, SC
BUILT: 2004
APPROX. WAVE HEIGHT: 2.5 feet

Cabo San Lucas, Mexico
BUILT: 2003
APPROX. WAVE HEIGHT: 3 feet

Marina Cabo San Lucas, Cabo San Lucas, Mexico
BUILT: 2003
APPROX. WAVE HEIGHT: 3 feet

Port Orchard Marina, Port Orchard, WA
BUILT: 2004
APPROX. WAVE HEIGHT: 3 feet

Church Point Ferry Landing, New South Wales, Australia
BUILT: 2001
APPROX. WAVE HEIGHT: 2.5 feet

St. George Motor Boat Club, New South Wales, Australia
BUILT: 2001
APPROX. WAVE HEIGHT: 2 feet

Miami, FL
BUILT: 2000
APPROX. WAVE HEIGHT: 1.5 feet

Lake Park Municipal Marina, Lake Park, FL
BUILT: 2004
APPROX. WAVE HEIGHT: 4 feet
WIDTH: 10 feet
with double Glu-lam walers
TYPE: Heavy duty caisson attenuator
UNIFLOAT® Wave Attenuation Systems from Bellingham Marine

From The Leading Designers And Builders Of Wave Attenuators In The World

Water is in the very soul of life, and engineers have been working to control it for centuries. Our understanding of the science of wave attenuation – protecting buildings from earthquake damage – is approaching 100 years old and new information is learned in every significant earthquake. No other company has the engineering resources and the comprehensive knowledge of marine design and construction to compare with Bellingham Marine. We design your wave attenuator through a process called Site-Specific Engineering, and our record is proof of its value.

Our wave attenuators are not one-size-fits-all products. We employ marine engineering, hydrodynamics, geology, basin and river ecology and structural and civil engineering to engineer a system to exactly fit your site and your budget. And we help you get through the arduous permitting process always attendant to shoreline development.

From that beginning, Bellingham Marine has continued to collaborate with the leading engineers in the field. Together we were able to build on that body of knowledge and develop the most durable and effective wave attenuator systems in the world. Today, Bellingham Marine Wave Attenuators are used around the world to protect against natural, wind-borne and ship wakes.

No other company has the engineering experience to design wave attenuation systems in every kind of application. Our wave attenuators are designed for your system by the most experienced engineering experts in the world in this discipline. The superior performance of our UNIFLOAT® Wave Attenuators in every kind of application is your assurance of quality, durability and effectiveness.

The Right Solution for Your Marina

With site-specific design, Bellingham Marine is able to offer the right wave attenuator for your situation. That way your system will not under-perform nor will it wastefully cost too much because it is overbuilt for the purpose.

Wave attenuators from Bellingham Marine serve many dual-purpose functions, such as breakwaters, fuel docks, and other uses. While specially designed, particularly below the waterline, they are similar in appearance to other floats in the marinas they protect. They require no special maintenance procedures, contributing to the low cost of ownership.

Our wave attenuators are designed especially for your marina by the most experienced engineering experts in the world in this discipline. The superior performance of our UNIFLOAT® Wave Attenuators in every kind of application is your assurance of quality, durability and effectiveness.

Wave attenuators are floating devices designed to greatly reduce wave energy from the source side to the protected side. Wave attenuators help create comfortable, wave-free conditions protecting against natural, wind-borne waves and boat or ship wakes.

Fixed structures, such as rubble mound breakwaters and sea walls, are high in cost, impractical due to water depth and other factors. For all these and other reasons, the floating wave attenuator is the perfect answer for many marinas.

Wave Dynamics

Waves are measured by height, length and period (see diagram). Engineers are interested in the average of the highest 1% (H1) and/or the average of the highest 1/3 (Hs) of the waves during a design storm event. Height and period (also known as wave period) are determinators of the energy to be managed, and wave length is also an important consideration in the design of wave attenuators.

Determine wave effects in a basin or harbor is a simple matter. Waves effects accumulate, and may reflect, or bounce off, nearby land masses and structures. In addition, waves change their dynamics as they impact shallow water. Waves can also deflect, which is to say they can bend around corners to some extent. Mass, breadth, depth and configuration are all important to developing an effective wave attenuator.

Waves have been a part of the earth’s surface for more than 25 years ago, when the U.S. Army Corps of Engineers turned to Bellingham Marine to make the prototype wave attenuators for a new study. From that effort the first practical empirical test data began to be collected.

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From The Leading Designers And Builders Of Wave Attenuators In The World

Wave Attenuators are ceaselessly at work from Alaska to Australia and from Maine to Florida with an impeccable record for durability from Maine to Florida with an impeccable record for durability. We employ marine engineering, hydrodynamics, geology, basin and river ecology and structural and civil engineering to engineer a system to exactly fit your site and your budget. And we help you get through the arduous permitting process always attendant to shoreline development.

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