

# CHAPTER 10

## MARINA

Marina Facilities  
Maritime Lighting  
Pilings  
Pump Out Station

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# MARINA FACILITIES

## PURPOSE

Marina facilities shall be safe, efficient, and inviting to visiting boaters, tourists and citizens while minimizing environmental impact to the Potomac River and Chesapeake Bay watersheds.

## GENERAL INFORMATION

Facilities shall be designed and constructed by personnel specializing in marine/waterway design and construction.

Layout and design shall generally conform to the California Department of Boating and Waterways Layout and Design Guidelines for Marina Berthing Facilities, July 2005.

Designs shall allow for individual fixtures and accessory items to be readily replaced.

Restrooms and sanitary components shall comply with the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings, as administered by the Virginia Department of Health.

Marinas shall incorporate best practices as detailed in the Virginia Clean Marina Guidebook.

Marinas shall comply with local and state permits regulating use and activity in Virginia Waterways, including but not limited to the Army Corps of Engineers, Virginia Marine Resources Commission, Virginia Department of Conservation and Recreation.

Marina facilities shall be ADA compliant.

Fire protection systems shall be provided.

Water safety systems shall be provided.

Construction may require the approval of the Alexandria Board of Architectural Review.

Related Standards: Park Structures, Site Furnishings, Surfacing, Signs, Utilities Systems.

## MATERIALS AND FINISH

Electrical components and devices shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Electrical systems shall conform to NFPA 303 Fire Protection Standards for Marinas and Boatyards.

Safety materials shall be durable, easy to maintain and resistant to vandalism.

Metal components shall be rust and corrosion resistant. Electrolytic corrosion resulting from dissimilar materials, metals and finishes shall be avoided.

Signs shall be readable, durable and prominently displayed.



City Marina

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# MARITIME LIGHTING

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## PURPOSE

Maritime lighting shall be provided for navigational marking, dock lighting and hazard marking. Lights include: Two Mile Lights, Blue Lights, One Mile Lights, and Pier Lights.

## GENERAL INFORMATION

Electrical components and devices shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Lights shall meet IALA-AISM guidelines and standards on marine lights and flash patterns.

Lighting systems shall include emergency lighting system and nightlight connections.

Lighting options shall include lens color, lamp color, and flash patterns.

The standard light fixture is manufactured by Carmanah, Model M502 or Model M650.

Light performance shall be visible at 2 nautical miles maximum.

Related sections: Lighting | Street Pole

## MATERIALS AND FINISH

Maritime lighting shall be waterproof, vibration proof and vandal proof.

Lights shall be solar powered LED lighting or energy saver rated. Lens shall be UV stabilized.

Lights shall include a function for battery operation.

Casing materials shall be UV-resistant and constructed from impact resistant polycarbonate.

Top of fixture shall be domed with self cleaning solar panels.

Bird deterrants shall be provided as needed.

## INSTALLATION

Install lights according to manufacturer's recommendations.

## LIFE CYCLE EXPECTATIONS

A product warranty of 5 years minimum is required.

Batteries are anticipated to require replacement after 5 years based on normal and ordinary use.

Bulbs and fixtures are anticipated to require replacement after 7 years based on normal and ordinary use.



Marina solar light

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## PURPOSE

Pilings shall secure docks and vessels.

## GENERAL INFORMATION

Piling shall be designed consistent with industry standard practices.

Piling locations shall not obstruct navigation waters.

Pilings shall follow the rules for Use of Submerged Lands-Permitting, Dredging, and Construction, Subaqueous Guideline, VA Constitution Article XI.

## MATERIALS AND FINISH

Pile diameters shall be round, 1 foot minimum outside diameter. Wall thickness shall be .0375 inches minimum.

Piling shall be open (hollow). Piling material shall be fiberglass composite. Piling finish shall be a PPT thermoplastic finish with UV inhibitors.

Piling color shall be brown or neutral color.

Piles shall have caps made of fiberglass or polyethylene, secured by galvanized or stainless steel hardware.

Piling shall be impact resistant.

## INSTALLATION

Driving equipment shall minimize disturbance to submerged aquatic vegetation and animals.

Required permits shall be obtained prior to installation.

Cut-off elevation of piles shall be determined by application, local conditions, design high water, design low water, weather data, and flood data. Generally piles shall extend 4 feet minimum above docks and walkways.

## LIFE CYCLE EXPECTATIONS

A product warranty of 10 years minimum is required.

Piles are anticipated to require replacement after 10 years based on normal and ordinary use.



Marina pilings

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# PUMP OUT STATION

## PURPOSE

Pump out stations shall be provided to remove sewage from on-board marine sanitation devices.

## GENERAL INFORMATION

Pump out stations shall meet Chapter 570 Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings, Section 270.

The standard vacuum pump out station is manufactured by Edson International, Model 210-2210 Series.

The pump out station shall have a 10 gpm minimum capacity.

Pump type shall be diaphragm or centrifugal power.

Motor shall be electric.

Suction and discharge opening size shall be regulated.

Pump out facilities shall include equipment for rinsing boat holding tanks. Backflow preventers shall be installed on the water service line when potable water is used.

## INSTALLATION

Pump locations shall be connected to approved discharge lines.

Pump out locations shall be fixed and not portable.

Locations shall be convenient to boat slips.

## LIFE CYCLE EXPECTATIONS

A product warranty of 2 years minimum is required.

Diaphragms and valves are anticipated to require replacement after 5 years based on normal and ordinary use.

Pump out stations are anticipated to require replacement after 10 years based on normal and ordinary use.



Pump out station

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