



## Management Procedures for Siting Mooring Areas

Effective May 20, 2006

**Introduction** The CRMC Management Procedures for Siting Mooring Areas is an addendum to the CRMC Guidelines for the Development of Municipal Harbor Management Plans. This document is to be used by municipalities or others when proposing new mooring areas or the expansion or reconfiguration of existing ones. While mooring areas may be managed by non-governmental entities all mooring areas in Rhode Island are under municipal jurisdiction exclusively through CRMC approved harbor management plans. The only exception is federal mooring areas that have been established in consistency with the RI Coastal Resources Management Program. These mooring areas may be under federal, state, or municipal jurisdiction, or be managed by a non-governmental entity. Finally, while RIGL 46-4 authorizes certain municipalities to issue mooring permits, with the exception of riparian moorings, all moorings permitted under this statute must be placed within a CRMC approved mooring area.

### 1. Definitions

**1.1 Approved HMP** a Municipal Harbor Management Plan that has been prepared by a municipality in accordance with the Guidelines for the Development of Municipal Harbor Management Plans, adopted by a city or town council, and approved by the full council of the Coastal Resources Management Council.

**1.2 Corner Buoys** buoys that mark the intersection points of mooring area perimeter limits. Corner buoys may not be used for the mooring of vessels.

**1.3 CRMC** the Rhode Island Coastal Resources Management Council.

**1.4 Global Positioning System (GPS)** a navigational system using satellite signals to fix the location of a receiver on or above the earth's surface.

**1.5 Guidelines** the CRMC adopted Guidelines for the Development of Municipal Harbor Management Plans.

**1.6 Harbor Commission** a commission or locally appointed body which is responsible for the development and/or implementation of a local municipal harbor management plan.

**1.7 Harbormaster** the person identified within the local HMP to assist in the implementation of the local HMP.

**1.8 Moor** to permanently secure a vessel to the submerged land of a waterbody by use of mooring tackle.

**1.9 Mooring** the location where a vessel is secured to the submerged land of a waterway by mooring tackle.

**1.10 Mooring Area** a designated water area managed by a municipality or non-governmental entity where five or more vessels are moored.

**1.11 Mooring Tackle** the hardware used to secure a vessel at a mooring.

**1.12 Vessel** is every description of watercraft, other than a seaplane on water, used or capable of being used as a means of transportation on water. Specifically excluded by this definition are floating homes or houseboats.

## **2. The Rhode Island State Plane Coordinate System**

### **2.1 Definition**

A. The Rhode Island State Plane Coordinate System (RI SPCS) consists of two (2) systems of plane coordinates, established by the National Ocean/National Geodetic Survey, which can be used for defining and stating the geographic positions or locations of points on the surface of the earth within the state. These two (2) systems are known as the "Rhode Island Coordinate System of 1927" and the "Rhode Island Coordinate System of 1983." A more technical definition of these systems can be found at chapter 8-4 of Title 34 in the General Laws of Rhode Island (GLRI), as amended 1956.

B. Consistent with 34-8-9 of the GLRI, these management procedures recognize that the Rhode Island Coordinate System of 1927 may be used up to and including December 31, 1989, but shall not be used thereafter. The Rhode Island Coordinate System of 1983 may be used up to and including December 31, 1989, and shall be the exclusive Rhode Island coordinate system thereafter.

### **2.2 The Rhode Island State Plane Coordinate System and Mooring Areas**

A. All mooring areas must be included within a municipal harbor management plan. Mooring areas must be described using either the Rhode Island Coordinate System of 1927 or the Rhode Island Coordinate System of 1983. Those municipalities which do not have an approved HMP before January 1, 1990, must have mooring areas described using the Rhode Island Coordinate System of 1983, as per 34-8-9 of the GLRI, 1956.

## **3. Siting Mooring Areas**

### **3.1 Location and Area**

A. All municipal harbor management plans must include the locations of all mooring areas. Coordinates of at least the corner buoys of each mooring area must be obtained, using the Rhode Island Coordinate System of 1927 or the Rhode Island Coordinate System of 1983 as defined in section 2 above, and 34-8 of the GLRI, 1956.

B. All mooring fields must be shown on a map with each mooring area's respective coordinates. Preferably, the coordinates of each mooring area should also be shown in an appendix of the HMP.

C. All municipal harbor management plans must show the total area of each mooring area using acres, square feet, or square meters.

D. Each corner buoy should be referenced to some landmark for general siting purposes for the general and boating publics. The coordinate system points, however, will be the final basis for establishing the location of mooring areas.

### **3.2 Transfer of Data**

A. Mooring areas may be described by one of the techniques below. Once the mooring area is described, the data describing it must be converted to the Rhode Island State Plane Coordinate System. The software required to perform this data conversion (Corpscon) is available as a free download from a US Army Corps of Engineers website. The following link will direct you to this website, which was active as of May 20, 2006: [crunch.tec.army.mil/software/corpscon/corpscon.html](http://crunch.tec.army.mil/software/corpscon/corpscon.html)

B. Coordinates generated by any of the following techniques will be transferred to the RI SPCS of 1983 by the CRMC at the request of a municipality preparing a harbor management plan. Transfer of data to the RI SPCS of 1983 will ensure consistency with 34-8 of the GLRI.

### **3.3 Techniques**

Municipalities or other entities proposing to establish mooring areas shall describe them using one (1) or more of the following two (2) techniques:

#### **A. Global Positioning System**

1. The Global Positioning System (GPS) involves the use of orbiting satellites around the Earth which transmit ultra stable signals and timing that can be received to obtain a position fix at any instant, either in a fixed or dynamic mode.
2. In the dynamic mode (moving receiver), the expected positional accuracy is on the order of 10 meters. In the fixed mode (stationary receiver), point positioning accuracy is expected to yield one (1) meter or better results. Originally launched by the U.S. Department of Defense to more accurately and timely plot navigation points, the GPS satellite coordinate system can be converted to other coordinate systems as required.
3. Products which access the Global Positioning System have a differential navigation accuracy of three (3) to five (5) meters, depending on the average measuring time of five (5) to ten (10) minutes
4. One such product which uses the Global Positioning System to accurately measure navigation points is the "Pathfinder." The Pathfinder will allow information to be collected from a moving vehicle or a fixed station which can then be processed and transferred to the Rhode Island Coordinate System. The accuracy level of the Pathfinder is equal to that mentioned above: two (2) to five (5) meters.

## 5. Use in Siting Mooring Areas

- i) Although the Coastal Resources Management Council does not advocate the use of one particular product that surveys geodetic points using the Global Positioning System, the potential of the Pathfinder as an aid to siting mooring areas has been studied and has been found to be an accurate and cost effective surveying tool for siting mooring areas. Similar products that utilize the Global Positioning System will be recognized by the CRMC provided that those products are shown to be as accurate as that of the Pathfinder.
- ii) The Coastal Resources Management Council will allow the data generated by the Pathfinder, or its equivalent, using the Global Positioning System to be acceptable in siting mooring areas and that the data be transferred to the Rhode Island Coordinate System of either 1927 or 1983.
- iii) When siting mooring areas using the Global Positioning System, the coordinates of at least the corner buoys of each mooring area must be obtained and transferred to the either the Rhode Island Coordinate System of 1927 or the Rhode Island Coordinate System of 1983. Those municipalities which do not have a CRMC-approved Local MHMP by January 1, 1990 must have mooring areas sited using the Rhode Island Coordinate System of 1983.
- iv) All mooring areas sited by using the Global Positioning System must be shown on a map along with the coordinates for each mooring field.

### B. Registered Land Surveyor

1. Proposed mooring area boundaries can be described by a registered land surveyor, professional engineer or architect. The coordinates of at least the corner buoys of each mooring area must be obtained by the using either the Rhode Island Coordinate System of 1927 or the Rhode Island Coordinate System of 1983. Those municipalities that do not have a CRMC approved Local MHMP by January 1, 1990, must have mooring areas sited using the Rhode Island Coordinate System of 1983.
2. All mooring areas surveyed by a registered land surveyor, professional engineer or architect must be shown on a map along with the coordinates of each mooring area, and must be stamped by the registered land surveyor, professional engineer or architect.

### 3.4 Setbacks and Buffer Areas

A. As described within the Guidelines, setbacks and buffer areas are necessary when establishing mooring areas for various reasons. These reasons include, but are not limited to, 1) safety in navigation; 2) access to and around federal navigation channels, anchorages, turning basins and harbor facilities; and 3) access of riparian areas associated with waterfront properties and public rights-of-way sufficient to prevent interference of other harbor activities.

B. Setbacks and buffer areas are hereby incorporated into these management procedures for siting mooring areas to ensure the requirements of the Guidelines.

C. All mooring areas must provide minimum setbacks and/or buffer areas from federal navigation projects,

(i.e. channels, anchorages, mooring areas, and/or turning basins) sufficient to prevent interference to these, and other, harbor activities. (Note: it is prohibited to establish a privately managed commercial mooring area within a federal navigation project)

D. All mooring areas must be sited in accordance with the requirements of the Guidelines and shall establish:

1. Setback limits from any existing federal, traditional, or proposed channel, sufficient to prevent interference with navigation.
2. Setback limits from shoreside structures sufficient to protect ingress and egress from these facilities.
3. Setback limits from riparian properties and shoreline public rights-of-way sufficient to prevent interference with the exercise of private or public rights in these areas.
4. Buffer areas that provide sufficient protection from interference with access and/or use to designated shellfish management areas, traditional fishing grounds as defined by the CRMC, and public recreational areas.
5. Buffer areas that provide sufficient separation to ensure public safety in swimming areas or other CRMC approved HMP designated special activity areas.
6. Buffer areas that provide sufficient separation to protect research reserves, marine protected areas, conservation areas, coastal habitat restoration sites, and submerged aquatic vegetation of concern to CRMC.

### **3.5 Water Quality**

A. All mooring areas must be sited in accordance with the requirements of the Guidelines in order to ensure:

1. tides and currents will aid in the flushing of new, expanded, or reconfigured mooring areas.
2. no adverse effects on water quality result from new, expanded, or reconfigured mooring areas.
3. adequate, accessible, and operationally maintained pumpout services or facilities are provided.
4. no mooring areas are sited within CRMC Type 1 Waters

Note: DEM also reviews proposed mooring areas for water quality certification purposes.