



*(Left) Marina site in front of the World Financial Center  
(Above) Marina breakwater*

---

## North Cove Marina, Battery Park City

*New York, New York*

Mueser Rutledge Consulting Engineers (MRCE) was responsible for the design and construction inspection of a pile supported concrete breakwater with tiedown anchors to rock for large yachts on the Hudson River. Complete ship services, including sanitary, electric, water and cable TV were provided at each berth.

A unique mooring system was developed to accommodate "stern first" access and egress from the vessels and large tidal fluctuations. Upland development included retaining walls with stairs and ramps for access to the adjacent waterfront esplanade.

Work included structural design of two underground utility vaults.

MRCE prepared required Army Corps of Engineers, NYSDEC and NYSDOS CZM permit applications.

**Owner:** Watermark Associates (original owner)  
Battery Park City Authority (current owner)

**Completion Status:** All work completed

**Completion Date:** 1989

**Project value:** \$5 million